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Internalizing Symptoms in Adolescents: Assessment and Relationship to Self-Concept

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INTERNALIZING SYMPTOMS IN ADOLESCENTS:

ASSESSMENT AND RELATIONSHIP

TO SELF-CONCEPT

by

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ABSTRACT

Internalizing Symptoms in Adolescents:

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by

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Internalizing disorders cause serious psychological problems for many adolescents. The effects can be both debilitating and long lasting. However, assessment of internalizing disorders has been plagued by limited measurement strategies. Historically, individual measures were developed to assess the narrow-band symptoms that are subsumed under the broad construct of internalizing disorders (e.g., depression, anxiety, somatic complaints, and social withdrawal). Recently, the Internalizing Symptom Scale for Adolescents has been created. The Internalizing Symptom Scale for Adolescents is a short screening measure that includes newer models of affect such as the tripartite model of affect. Additionally, there has been limited research on the relationship between self-concept and internalizing disorders. Although the inverse relationship between depression

and self-concept is well documented, the relationship between self-concept and other internalizing syndromes is essentially unknown.

The present study addressed the underlying factor structure of the Internalizing Symptom Scale for Adolescents. A factor analysis using principal axis extraction with varimax rotation was conducted. A two-factor solution was identified as superior to any other factor solution considered. The two factors accounted for 34.2% of the total variance in the Internalizing Symptom Scale for Adolescents scores and were identified as Factor 1, Negative Affect/General Distress and Factor 2, Positive Affect. The two-factor solution of the Internalizing Symptom Scale for Adolescents provided some support for Watson and Clark's tripartite model of affectivity. The present study also considered the relationship between the Internalizing Symptom Scale for Adolescents and the Multidimensional Self-Concept Scale. Bivariate correlations were run to evaluate the relationship between internalizing symptoms and self-concept. The correlations ranged from moderate to large (-.42 to -.78) and were inversely related as expected. Multiple regression analyses were conducted to determine if the Multidimensional Self-Concept Scale subscales could predict internalizing symptoms. The combined predictors accounted for 62% of the variance in the Internalizing Symptom Scale for Adolescents. These findings indicate that self-concept is a robust predictor for internalizing disorders. The study provides evidence for the use of the Internalizing Symptom Scale for Adolescents as a psychometrically sound measure for assessing internalizing disorders in adolescents. Implications of this study for clinical practice and directions for future research are discussed.

(124 pages)

DEDICATION

I wish to dedicate this dissertation to my family--without them I might not have persevered to see my dreams realized. First to my daughter Kate, for her support which did not always come easily for her as could be expected from an adolescent. However, her love and support have been unconditional and her belief in me never wavered. I also dedicate this dissertation to my parents, John and Anna Mae Lewis, for their constant faith in me, their support, and their numerous trips to Utah to help Kate and me have a "normal" family life during graduate school. My sister, Peggy Jo, has also been a never-ending source of support in my life as I pursued my long-standing dream of a Ph.D. I am lucky to have been blessed with such a great family. Thank you!

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CHAPTER I

INTRODUCTION AND PROBLEM STATEMENT

Adolescence is typically considered a period of changes on multiple levels: physical, social, cognitive, and emotional. At one time this period was considered an inevitable time of storm and stress; however, research has replaced that thinking with the idea that adolescence is a time of developmental transitions (Hill, 1993). However, these transitions may come with psychological stress, putting many adolescents at risk for emotional or behavioral problems (Chartier & Lassen, 1994). Understanding how these stressors affect an adolescent's psychosocial functioning is important. One indication of an adolescent's personal adjustment according to Bracken and Howell (1991) is his/her self-concept.

While adolescents can be at risk for emotional problems, behavioral problems, or a combination of the two, attention has frequently been focused on problems where the behavior displayed by the adolescent is of an acting out nature. The disorders that encompass these types of problems have come to be referred to as externalizing disorders because the child or adolescent is focusing his or her emotional distress or problems outward toward others in society, often leading to behaviors such as disruption of classes, destruction of property, fighting, stealing, arguing, refusing requests, swearing, and acts that may lead to involvement with the judicial system. Because externalizing behaviors are difficult, if not impossible to ignore, they may receive more attention than disorders of a quieter nature.

Ostrov, Offer, and Hartlage (1984) termed the troubled adolescents who do not disturb the classroom or present problems to others as the "quietly disturbed." The "quieter" disorders, referred to as internalizing disorders, encompass anxiety, depression, somatic complaints, and social withdrawal. Internalizing disorders are so named because typically the person who suffers from one of these disorders turns his/her emotional problems inward instead of acting out against the pain.

There are many transitions during adolescence that may increase the risk of an adolescent suffering from internalizing disorders. Kazdin (1993) reported a growing body of information indicating that adolescence is a developmental period during which adolescents have an increasing vulnerability to mental health problems. The threats to mental health in adolescence are "enormous because of the many youth who engage in at-risk behaviors or who are exposed to deleterious conditions that jeopardize their development" (p. 129). This statement is supported by available prevalence rates of internalizing disorders in adolescents. For instance, according to Schwartz, Gladstone, and Kaslow (1998), prevalence rates for adolescents with depression in community samples were as high as 7%, extending to 57% in clinical samples. Further, based on studies before the implementation of Diagnostic and Statistical Manual of Mental Disorders, 4th Edition (DSM-IV; American Psychiatric Association, 1994) criteria, the estimated prevalence rates for anxiety disorders in children and adolescents were between 5.78% and 17.7% (Silverman & Ginsberg, 1998).

Finally, somatic complaints are another component of internalizing problems that have not received adequate attention given that as many as 50-75% of all patient visits,

including adolescents, to primary care physicians can be "attributed to psychosocial problems that present through physical complaints" (Roberts, 1994, p. 221; Wickramasekera, Davies, & Davies, 1995). Taken together, these numbers highlight the need for research and early identification of those adolescents at risk for internalizing disorders in order to provide appropriate intervention. Understanding and identification of internalizing disorders can be aided by including key aspects of development such as self-concept.

According to Demo (1992), self-concept, "like other dimensions of personality, is a function of interacting biological, developmental, and social processes" (p. 307). It could be expected that an adolescent's self-concept or self-image would be in flux during this time as the adolescent's cognitive abilities are changing in conjunction with hormonal, physical, and emotional changes (Steinberg, 1989). Researchers such as Demo have noted that this developmental period finds the self-concept controlled by inner directed thoughts, fears, feelings, beliefs, and expectations as could be expected by the increase in self-consciousness and introspection. Thus, self-concept may be a key to the "promotion and maintenance of psychological health" (Harter, 1990, p. 231) and psychosocial adaptation.

The relationship between self-concept and some components of internalizing disorders has been studied by various researchers. Consistently, these studies report that positive self-concept and depression have an inverse relationship of moderate magnitude (Donnelly & Wilson, 1994; McCauley, Mitchell, Burke, & Moss, 1988; Moyal, 1977; Patton, 1991), with higher levels of self-concept related to lower levels of depression and vice versa. Self-concept has also been studied in relation to anxiety. While there have

been indications that different dimensions of self-concept were related to anxiety disorders, the relationships typically were not as strong as those with depression (Beck, Steer, & Epstein, 1992). Other categories of internalizing disorders have not been studied in relation to self-concept, nor has the global concept of internalizing disorders been addressed in relationship to self-concept.

The lack of research involving internalizing disorders and self-concept may be better understood when considering that, for the most part, there is a lack of self-report measures to assess adolescent internalizing disorders. Assessment of internalizing disorders in adolescents has presented psychologists, psychiatrists, and other mental health professionals with several challenges. One main challenge is caused by the nature of internalizing disorders, that is being more inner-directed, covert, and not easily observable, thus making identification and assessment difficult. Secondly, there are several good self-report measures that can be used to assess individual components within internalizing disorders (e.g., the Reynolds Adolescent Depression Scale & State-Trait Anxiety Inventory), and two measures that address the broader range of internalizing disorders, the Youth Self-Report (YSR, Achenbach, 1991) and the Behavioral Assessment System for Children (BASC, Reynolds & Kamphaus, 1992). Another challenge in evaluation is the similar symptomatology among internalizing disorders and the frequency of comorbidity among these disorders, particularly anxiety and depression. However, recent measures developed such as the Internalizing Symptom Scale for Adolescents (ISSA) have sought to tap internalizing symptoms broadly and have integrated new research addressing comorbidity.

Distinguishing between anxiety and depression has been significantly aided by the work of Clark and Watson (1991) and their tripartite model of affect. Their model originally started as a two-factor affective model that characterized mood as consisting of two basic factors: negative affect and positive affect. Negative affect is described as "feeling upset or unpleasantly aroused; it is a general factor of subjective distress and encompasses a broad range of negative mood states, including fear, sadness, anger, guilt, scorn, and disgust" (Watson et al., 1995, p. 4). Positive affect, in contrast, represents mood states of joy, enthusiasm, self-confidence, and energy (Watson et al.). Watson, Clark and colleagues have suggested one area that depression and anxiety had in common was a high level of subjective distress/negative affect and found that negative affect correlated significantly with both anxiety and depression. Further, Watson, Clark and colleagues suggest that positive affect in average or high levels correlated with anxiety while lack of positive affect correlated with depression. Considering internalizing problems as directed toward the self, Kazdin (1988) established the connection between depression and self-concept. Merrell (1994) stated that "given the overlap among depression, anxiety, and other internalizing symptoms, it is logical to assume that self-concept and internalizing symptoms in general may be negatively associated" (p. 192). Considering the work of Watson and Clark, the depression and self-concept correlation could be a relationship with self-concept and negative affect, or perhaps it is unique to factors of depression (e.g., low positive affect). However, self-concept has not been investigated in relation to newer models of affect (e.g., positive and negative affect).

As previously stated, internalizing problems are harder to detect and evaluate than

externalizing behaviors. Until recently there have been no short screening measures available to assess internalizing symptoms to help clinicians and researchers detect, evaluate, and better understand this group of problems. Having the ability to assess for symptoms of internalizing disorders as well as screen globally for levels of both positive and negative affect could be a beneficial tool in evaluating adolescent mental health. Recently the ISSA (Merrell & Crowley, 1998), was designed to assess the broad spectrum of internalizing problems, that is, depression, anxiety, somatic complaints, and social withdrawal. In hopes of better capturing unique aspects of internalizing problems, particularly anxiety and depression, the ISSA incorporated items assessing positive affect. There are currently several gaps in the literature regarding internalizing problems, positive and negative affect, and self-concept. These gaps include limited information available on the ISSA, including the underlying factor structure, and no information on the relationship between internalizing problems and self-concept. Additionally, it is unclear how the addition of the items measuring positive affect will impact the psychometric characteristics of the ISSA and its relationship to self-concept. Finally, although there have been numerous studies identifying the inverse relationship between self-concept and depression, no studies have investigated the relationship between the broad band group of internalizing problems and self-concept.

The purpose of this study was to gain further understanding of internalizing disorders in order to bridge some of the gaps identified in the literature. First, this study gathered empirical support for the recently developed ISSA. This measure will fill the gap that now exists in assessing and evaluating internalizing problems. Furthermore, this study

provided data to identify the various factors that constitute the structure within the ISSA. The second purpose of this study was to investigate the relationship of self-concept with internalizing disorders. And finally, the present study sought to better understand how well self-concept predicts internalizing symptoms.

CHAPTER II

REVIEW OF THE LITERATURE

The importance of understanding the nature of internalizing symptomatology in adolescents cannot be denied due to the immediate effects as well as the long-term consequences of untreated psychological problems (Ferdinand & Verhulst, 1995). Developing procedures for identification and evaluation is important. With the ability to assess and evaluate, clinicians will be able to devise methods of treatment for the individual syndromes that make up internalizing disorders. The following sections will establish support for the need for a self-report measure to accurately identify and evaluate internalizing disorders in adolescents. An overview of internalizing disorders and the syndromes that make up internalizing disorders are presented as well as a review and critique of the existing self-report measures designed to assess aspects of internalizing disorders. Literature relevant to self-concept will also be presented to establish the current relationship to aspects of internalizing disorders (e.g., depression, anxiety, somatic complaints, and social withdrawal). The literature review will also discuss the tripartite model of affect and its relationship to the differentiation between depression and anxiety. Included in the literature review will be a description of and the theoretical background for the ISSA with information on its sister instrument, the Internalizing Symptom Scale for Children (ISSC).

The Nature of Internalizing Disorders

Efforts during the past two decades to develop taxonomies of adolescent

behavioral, social, and emotional problems have led to two main broadband categories originally proposed by Achenbach and Edelbrock (1978). The two broadband factors identified and empirically supported by Achenbach and Edelbrock were those that described patterns of overcontrolled and undercontrolled behavior, and each broadband dimension subsumed several specific narrowband behaviors and disorders. The broadband dimensions have been described as externalizing or undercontrolled behavioral problems and internalizing or overcontrolled behavioral problems. Problems of an externalizing nature are characterized by turning emotions outward in disruptive, acting-out behaviors that can be aggressive, hyperactive, or conduct disordered. Internalizing problems are typified by turning emotions inward that can result in depression, social withdrawal, anxiety, and somatic complaints. Because this inward focus can be hard to detect, it may be more likely to go unnoticed until the problem is at a serious level. One example is suicidal thoughts, which can lead to suicidal attempts or successful suicide. Statistics from the National Center for Health Statistics at the Centers for Disease Control and Prevention (CDC) reported that from 1980-1992, the rate of suicide for the age range 15-19 increased by 28.3%, and among children 10-14 during the same time it rose 120%. According to Pinto and Whisman (1996), in a 1991 CDC survey of 9th- through 12th-grade students, 27% reported that they had seriously thought about suicide within the past year.

Some researchers (e.g., Schweitzer, Seth-Smith, & Callan, 1992) have posited that "adolescents exhibiting predominantly internalizing symptomatology may be underrepresented in clinical samples" (p. 94). Because internalizing adolescents do not

typically behave in ways that draw attention to themselves or disrupt classrooms, they are often ignored or simply not noticed. The underrepresentation of internalizing disorders in clinical samples is typified by the adage "the squeaky wheel gets the oil." It is much more likely that an adolescent who exhibits an externalizing disorder will be referred to mental health facilities, as compared to the internalizing youth. Thus, the need to accurately identify internalizing disorders is important in order to intervene appropriately when adolescent emotional problems arise. Due to the very nature of internalizing disorders, evaluation and assessment are typically accomplished by self-report, as each individual adolescent is considered the best source of information about his/her inner-directed phenomena (Reynolds, 1992). Until the recent development of the ISSA there has been no single short screening measure assessing internalizing problems in adolescents. Gathering data on how the ISSA evaluates adolescents for internalizing problems could benefit researchers and clinicians alike. One way to add to this knowledge base is to look at how ISSA scores relate to self-concept. Currently, the moderate to strong inverse relationship between self-concept and depression is the most robust relationship involving internalizing problems. In order to provide a context in which to discuss the ISSA, this section will review depression, anxiety, somatic complaints, social withdrawal, comorbid occurrence of internalizing problems, correlates of internalizing disorders, and the tripartite model of affect.

Depression

Adolescence as a developmental stage has many more elements that constitute risk

factors for negative mental health consequences than was the case even 30 years ago (Kazdin, 1993). These risk factors include sexually transmitted diseases, including HIV/AIDS; substance use; violence in the community, school, or home; and suicide. These stress factors may partially explain the increased prevalence rate of depression and other psychiatric disorders in adolescents (Beitchman, Inglis, & Schacter, 1992). While there have been no national epidemiological studies representative of the national census in children and adolescents, contemporary research indicates that the prevalence rates for mood disorders range from 2% to 7% in community settings, with clinical samples as high as 57% (Fine, Forth, Gilbert, & Haley, 1991; Schwartz et al., 1998). While an estimate of 57% may seem too high, it must be remembered that these are the adolescents who have already been identified as troubled, including those originally identified with comorbid externalizing disorders or substance abuse and are receiving clinical attention. Rao et al. (1995) reported a recurrence rate of 69% (over a 7-year period) when they followed a depressed group of adolescents into adulthood. Harrington (1992) also indicated that children and adolescents with affective disorders have increased risk of further episodes of depression into adult life. Across the life span, individuals who suffer from depression in childhood and adolescence have increased risk of other serious emotional problems as well as increased rates of depressive episodes later in life (Ferdinand & Verhulst, 1995; Harrington, 1992; Rao et al., 1995).

Depression, whether in children, adolescents, or adults, is considered a mood disturbance that can vary in regard to severity along a continuum from mild to severe. The DSM-IV (APA, 1994) makes few differentiations in criteria between children and

adolescents and adults. According to the DSM-IV, clinical depression is characterized as having feelings of sadness, loss of interest or pleasure in most all activities; changes in appetite, sleep patterns; fatigue, lack of energy; feelings of worthlessness, hopelessness; difficulty thinking, concentrating, or making decisions; having recurrent thoughts of death or suicidal ideation. In children and adolescents there may be more noticeable irritability rather than sadness. There may also be increased somatic complaints or social withdrawal, although these are more typical in children than adolescents. However, psychomotor retardation, hypersomnia, and delusions are more common in adolescents and adults (DSM-IV). Depression in children is more likely to be comorbid with attention-deficit/hyperactivity disorder, anxiety disorders, and disruptive behavior disorders than to appear alone. In adolescents, depression is more frequently associated with the three disorders listed above in addition to substance-related disorders and eating disorders (DSM-IV). Adolescents may also be diagnosed with depressive disorder not otherwise specified when symptoms do not meet the full criteria for a depressive disorder. Most self-report measures that screen for depression are assessing symptoms of general distress such as irritability, tearfulness, sleep disturbance, changes in appetite, or lack of energy.

Research with adults has revealed a significant gender difference in diagnosed depression, with women having a higher prevalence rate than men (DSM-IV, APA, 1994). However, research with children and adolescents has had mixed results as to whether there is a difference in prevalence of depression between genders (Bolognini, Plancherel, Bettschart, & Halfon, 1996; Rao et al., 1995; Vostanis, Feehan, Grattan, & Bickerton, 1996; Weist, Paskewitz, Warner, & Flaherty, 1996). According to Cantwell (1990) the

sex ratio in depressive disorders is approximately equal in prepubertal children but that ratio changes after puberty with females more likely to be diagnosed with depression than males. Therefore, we would expect to see the gender ratios in adolescents mirror those found in adults.

Depression in childhood and adolescence is associated with a number of serious problems including poor academic performance, impaired social relationships, increased risk of substance use and abuse, and increased risk for suicide or attempts (Harrington, 1992; Lewinsohn, Gotlib, & Seeley, 1997; Reynolds, 1992). Most notably, as previously mentioned, major depression in adolescents "is associated with significant long-term morbidity" (Rao et al., 1995), and having depression in adolescence significantly increased the risk for depressive episodes to recur and persist into adulthood. This fact taken with the finding that over one third of nonreferred adolescents report suicidal ideation underscores the necessity of finding factors that help buffer the adolescent from unmanageable psychosocial stressors that lead to depression (Chartier & Lassen, 1994).

Anxiety

With the publication of the DSM-IV (APA, 1994), the diagnoses of anxiety disorders in children and adolescents changed and the criteria for children and adolescents became the same as adults with a few minor adjustments (Callahan, Panichelli-Mindel, & Kendall, 1996). There is now only one category of anxiety disorder that is strictly limited to children, and that is separation anxiety disorder. This disorder is the most common anxiety disorder in children and adolescents with an average estimated prevalence of 4%.

separation anxiety disorder is based on developmentally inappropriate and excessive distress related to separating from home or the primary attachment figure. The other anxiety disorders that were considered child or adolescent related have been subsumed under adult anxiety disorders. Specifically, overanxious disorder and avoidant disorder were subsumed under the domains of generalized anxiety disorder and phobias, respectively. Other DSM-IV categories of anxiety disorders include: panic attack, agoraphobia, obsessive-compulsive disorder, posttraumatic stress disorder, and substance-induced anxiety disorder. DSM-IV symptom criteria for anxiety include physical arousal, fear, restlessness, sleep disturbance, difficulty concentrating, distress, muscle tension, irritability, worry, and patterns of behavioral avoidance. In their review of anxiety disorders, Bernstein and Borchardt (1991) stated that there are indications that anxiety disorders are the most common category of child and adolescent internalizing disorders.

Further, there is considerable data establishing a frequent cormorbid relation between anxiety and depression. As Callahan et al. (1996) stated, the "high rate of comorbidity between these two disorders has led some researchers to question whether they are truly two disorders as indicated by the DSM, or one construct encompassing symptoms from both disorders" (p. 301). There is disagreement in the literature with some researchers suggesting that there is only one broad band category based on the inability of screening measures to discriminate between the two disorders while others argue for two separate categories. This will be discussed further in the section discussing the research of Watson and Clark and the tripartite model of affect. However, some recent research with children and adolescents supports the use of separate anxiety and

depression constructs. For instance, results of a study by Cole, Peeke, Martin, Truglio, and Seroczynski (1998) indicate two distinct disorders with individual differences in anxiety and depression constructs remaining stable over time. The present study will follow Watson and Clark's model that anxiety and depression are indeed two distinct disorders that can be identified and evaluated as such. As Watson and Clark's model suggests, the differentiation between anxiety and depression is related to the presence or absence of positive affect. In a study with children, research by Merrell, Crowley, and Walters (1997) has supported the Watson and Clark model of affectivity. The current study will extend that line of research into adolescence.

Somatic Complaints

Somatic complaints associated with internalizing problems are physical symptoms that are presumed to be psychological in origin. The DSM-IV (APA, 1994) states that the common feature of somatoform disorders is the "presence of physical symptoms that suggest a general medical condition and are not fully explained by a general medical condition" (p. 445). Common somatic complaints include headaches, eye problems, abdominal pain, and vomiting. These somatic complaints come in the form of headaches, abdominal distress, difficulty sleeping, fatigue, and allergies, and are often symptoms of organic disease without the explanatory physical pathology. The absence of organic findings for these complaints indicates their origin as a response to psychosocial distress. Complaints of this sort are common and recurrent among adolescents although there are no prevalence rates regarding this maladaptive behavior (Siegel, 1990). While there are

no prevalence rates, there have been studies indicating that "over 20% and as many as 75% of all patients in primary care settings present psychological problems through somatic symptoms without any organic disease" (Roberts, 1994, p. 47).

There has been some research into various dimensions of somatic problems such as headaches, elimination disorders, and eating disorders (Siegel, 1990), which indicates there is a complex interaction of biological, social, psychological, and environmental factors involved in these somatic problems. Ferdinand and Verhurst (1995) found that somatic complaints at follow-up in an 8-year study were predicted by original somatic complaints. They also reported that if somatic complaints were comorbid with social problems (e.g., does not get along with peers, gets teased, not liked by peers, clumsy, too dependent, withdrawn, or acts too young), the likelihood of somatic complaints persisting increased dramatically. Considering the percentages listed above concerning visits to primary care physicians that are actually somatic complaints, intervening at an early stage would be beneficial.

Social Withdrawal

Social withdrawal is a term that refers to the act of being alone; it describes behavioral solitude. This solitude is the child's preference, not an instance of being rejected by peers (Rubin & Asendorpf, 1993). In the past, social withdrawal has not typically received a great deal of attention by researchers because it was not thought to be a serious concern. Rather it was thought to be a personal characteristic of a "shy" child that would be modified as the child matured. Plus the "shy" child does not present a

problem to society, unlike a child displaying externalizing behavior. These ideas of social withdrawal are changing in light of the shootings at schools over the past two to three years because several of the young men who have perpetrated the violence have been quiet, alienated students who had not previously acted out or given obvious signs to cause concern (Sandhu, 2000).

Furthermore, the researchers who have studied social withdrawal (e.g., Boivin, Hymel, & Bukowski, 1995; Jeney-Gammon, Daugherty, Finch, Belter, & Foster, 1993; Rubin, Chen, McDougall, Bowker, & McKinnon, 1995) have come to view this behavior as a predictor of other internalizing disorders. For example, increases in feelings of loneliness were found to be the ultimate predictor of depressed mood. The increases in feelings of loneliness followed increased social withdrawal that appeared to be mediated by negative peer experiences. In other words, social withdrawal came first, but that behavior contributed to the likelihood of peer rejection that increased the likelihood of victimization by peers. These negative peer experiences, victimization, or rejection often negatively affected the child's social self-concept (Boivin et al., 1995).

Rubin et al. (1995) found that social withdrawal as measured at seven years of age predicted internalizing problems in adolescents at age 14. Specifically their study indicated that negative self-regard, loneliness, and felt insecurity with peers and family members were the aspects of social withdrawal that correlated most significantly with internalizing problems. The findings were that social withdrawal was predictive of self-regard (-.34) and loneliness (.37). Their study suggested that the "consistent expression of social withdrawal in childhood may have rather significant implications for the

development of psychopathology" (p. 760). It is the opinion of these researchers that the predictive relationship between social withdrawal and internalizing problems indicates that social withdrawal does represent a risk factor for maladaptive development. They argue that the long-held general belief that social withdrawal is not problematic should be revised in view of their findings. Consistent social withdrawal increased risk due to the child's inability to master social skills, and the child's increased likelihood of peer rejection and lowered self-regard. In a finding that echoes the seriousness of social withdrawal, Jeney et al. (1993) found that children who withdrew socially following a natural disaster had more symptoms of depression. Research conducted by Boivin et al. (1995) supported Rubin's proposed developmental pathway toward internalizing problems. They stated that social withdrawal forecast loneliness by its association with negative peer status and victimization. Their study indicated that feelings of loneliness were the ultimate predictor over time of depressed mood, with "increases in withdrawal adding significantly to the prediction of depressed mood" (p. 782). The findings of Boivin's study supported the view that the quality of peer experiences is not only a sign of maladjustment, "but rather, that it plays an effective role in the child's personal and social adjustment" (p. 784). In a study designed to measure stability of psychopathology in the general population over eight years, Ferdinand and Verhulst (1995) found considerable stability of behavioral and emotional problems. They found a pervasive pattern for social withdrawal from adolescence to early adulthood. In addition, they reported that suicide attempts were predicted by scores in the high range on the withdrawn scale. These findings add impetus to the need for assessment and evaluation of this component of internalizing disorders.

Correlates of Internalizing Disorders

The correlates of internalizing problems include increased risk of suicide, persistent problems with depression, increased risk of substance abuse, social isolation, poor psychosocial adjustment and maladaptive functioning (Boivin et al., 1995; Quay & LaGreca, 1986; Simons & Miller, 1987; Smith, 1992). It appears rather obvious that these correlates are serious problems not only for the individual but for society as a whole. Scheier and Botvin (1997) reported that with a few minor exceptions, "affective distress was significantly related to most facets of psychosocial functioning" (p. 108). Their study indicated that feelings of depression and anxiety affected both cognitive and social/ emotional aspects of adolescent life. Adolescents with internalizing disorders are at increased risk for academic problems (King & Ollendick, 1989), poor self-concept (Harter, 1990), poor social relationships (Merrell, 1994), and suicide (Harter, Marold, & Whitesell, 1992; Beitchman et al., 1992). Additionally, there is significant evidence suggesting that internalizing problems in adolescence persist into adulthood (Beitchman et al., 1992; Harrington, 1992; Rao et al., 1995; Reynolds, 1992). These negative implications can be direct, as in continuing the same disorders into adulthood, or can be indirect due to the problems that result from these disorders (e.g., poor interpersonal relationships, poor academic performance). Whether these problems are direct or indirect, the correlates of internalizing disorders present serious implications to psychosocial functioning.

Comorbidity of Internalizing Disorders

Reynolds (1992) indicated that there is considerable evidence that internalizing disorders often are comorbid with each other (e.g., depression, anxiety) as well as with other disorders (e.g., conduct disorder, attention deficit). Comorbidity is the term used to indicate that a person meets the diagnostic criteria for multiple, separate disorders (Kendall, Kortland, Chansky, & Brady, 1992; Reynolds, 1992). Reynolds defined the issue of research on comorbidity as being "somewhat descriptive of disorders that co-occur with the disorder of interest" (p. 313). He indicated that there have been very few studies that have tried to examine comorbidity across the broadband category of internalizing disorders in clinical populations. However, since 1992, more research has addressed the issue of comorbidity of internalizing disorders. Most adolescents who met the criteria for anxiety "were noted to have at least one additional concurrent nonanxiety diagnosis" (Kashani & Orvaschel, 1988, p. 962). In a review of studies dealing with internalizing disorders, Callahan et al. (1996) reported findings of comorbidity estimates for anxiety and depression ranging from 17 - 73%. Boyd and Gullone (1997) reported evidence showing that anxiety and depression frequently co-occur in nonclinical samples of children and adolescents. Brady and Kendall (1992) reported estimates of comorbidity for anxiety and depression to range from 16 - 62% in children. The issue of comorbidity appears to be extremely relevant to internalizing problems because of the number of children and adolescents possibly affected. Reynolds (1992) indicated that there has been increased recognition for the coexistence of other forms of psychopathology with internalizing disorders. Not only is the issue of comorbidity among internalizing disorders

important as stated, but the issue of comorbidity with externalizing disorders is relevant as well. Beitchman et al. (1992) reported that there is great concern when internalizing disorders are coupled with externalizing disorders and gave as an example that individuals with depression and conduct disorder were at higher risk for committing suicide. Again, this points to the importance of comorbidity in internalizing disorders.

The two most frequently studied components of internalizing disorders are depression and anxiety. These two disorders share many symptoms including excessive worry, irritability, sleep disturbance, difficulty concentrating, easily fatigued, having multiple physical complaints, and psychomotor agitation or retardation. Because of the high correlation between measures of anxiety and depression (King, Ollendick, & Gullone, 1991) as well as the comorbidity of the two syndromes, there have been two competing explanations. One theory is that anxiety and depression are indistinguishable because they are not two separate constructs. Alternatively, other researchers have supported the notion of separate constructions and have sought to explain the high overlap between symptom constellations through the constructs of positive and negative affectivity.

Tripartite Model of Affect

The efforts to understand why depression and anxiety are often difficult to distinguish led Clark, Watson, and their colleagues (Clark & Watson, 1991; Watson et al., 1995) to develop the tripartite model of affect. The research in this area began with studying adults and has slowly extended to include research with children and adolescents.

Watson and Clark suggested that what depression and anxiety had in common was an increased level of subjective distress that they termed negative affect. However, positive affect, which is described as enjoyment of life, energy, and enthusiasm, was identified as a way to distinguish depression from anxiety. Watson et al. (1995) also determined that a lack of positive affect was related more consistently and strongly with depression than with anxiety. The key to this difference is that associated with depression there are typically very low levels of positive affect. This difference is indicated with anxiety having average or even high levels of positive affect and elements of physiological arousal. Their theory states that low positive affect or anhedonia is a unique feature of depression, with people who suffer from anxiety problems reporting average or high levels of positive affect. Anhedonia is defined as the "loss of interest or pleasure in all or almost all activities" (Reynolds, 1992, pp. 161-162). The tripartite model is an extension of Clark and Watson's (1991) original two-factor model of affect. The three factors included in the tripartite model are positive affectivity, negative affectivity, and physiologic hyperarousal. According to the model, high negative affect is common to both anxiety and depression. The lack of positive affect is the distinguishing feature of depression with individuals suffering from anxiety problems having average or high levels of positive affect. A high level of physiologic hyperarousal is the distinguishing feature of anxiety with individuals suffering from depression reporting average levels of physiologic arousal. Thus, from a theoretical perspective, the tripartite model can be used to differentiate anxiety from depression. It is important to keep in mind that positive affect and negative affect are separate but related constructs.

Research that has substantiated Clark and Watson's tripartite model includes a study by Merrell et al. (1997). Their work in developing a self-report measure to assess internalizing disorders in children found a two-factor solution similar to Watson and Clark's model of affectivity. Lonigan, Hooe, David, & Kistner (1999) also reported a two-factor model that supported the relationship between negative affect and positive affect in symptoms of anxiety and depression. They found that negative affect was strongly associated with both symptoms of depression and symptoms of anxiety. Thus, the results of their study were consistent with the tripartite model of affect. In other research that supports the tripartite model, Joiner and Lonigan (2000) found that depressive disorder diagnoses were associated with the combination of low levels of positive affect and high levels of negative affect. Other researchers (Boyd & Gullone, 1997; Jolly, Dyck, Kramer, & Wherry, 1994; Lonigan, Carey, & Finch, 1994; Steer, Clark, Beck, & Ranieri, 1995) have also supported Clark and Watson's tripartite model of affect.

While many researchers have investigated anxiety and depression with results that support the tripartite model of affect, there are others who have found differing results. For instance, Burns and Eidelson (1998) found that the tripartite model did not fit with their sample. They concluded that "the nonspecific symptoms of depression and anxiety are phenomenologically distinct and cannot be combined into a cluster of negative affect symptoms" (p. 471). Burns and Eidelson reported that in their study the nonspecific depression and nonspecific anxiety scales did not fit the tripartite model to load on a single Negative Affect factor. They also stated that the nonspecific anxiety and depression symptoms were the most valid indications of anxiety and depression, not physiological

arousal and anhedonia. They concluded from their findings that their study did not support Clark and Watson's tripartite model of affect.

Research regarding the tripartite model of affect has been limited due to lack of measures that could assess for positive and negative affect. The use of the ISSA in this study may provide additional information regarding the relationships between positive and negative affect suggested in the literature.

Assessment

As stated previously, trying to assess and evaluate internalizing problems presented researchers and clinicians with many challenges. Because internalizing problems are inner-directed, it is essential to gain the perspective from the individual being assessed. This can be done by clinical interview or self-report measures. The clinical interview provides a wealth of information, but it is time consuming and requires the interviewer to be adequately trained in interviewing techniques and developmental theory. Currently available self-report measures typically assess for narrowband disorders, thus limiting the information the clinician or researcher gains to a single disorder or syndrome at a time, unless multiple self-report measures are administered. Another limitation of self-report measures is the possible bias that a child or adolescent may bring to their responses on a self-report measure by answering in a socially desirable fashion (LaGreca, 1990). However, a strength of most self-report measures is that they are short, relatively inexpensive to administer, and they take very little time for the adolescent to complete.

This section will review assessment measures for both narrow band assessment and broad band assessment including brief psychometric information and limitations.

Assessment of Narrowband Disorders

In order to screen for depression and anxiety it is necessary to give individual self-report measures to adolescents. There are no self-report measures for somatic complaints or social withdrawal and, consequently, these internalizing symptoms would require a clinical interview to gain information regarding their presence and severity.

Objective self-report measures can be utilized to assess the degree to which respondents report symptoms relevant to a particular problem area. Currently there are several self-report measures that are used to assess specific internalizing problems in adolescents. A few of the common measures include the Beck Anxiety Inventory (BAI; Beck & Steer, 1987), the State-Trait Anxiety Inventory (STAI; Spielberger, 1983), the Beck Depression Inventory (BDI; Beck & Steer, 1987), and the Reynolds Adolescent Depression Scale (RADS; Reynolds, 1987) have been widely used to assess the narrow-band problems of anxiety and depression.

The BAI (Beck & Steer, 1987) consists of 21 items that measure anxiety in adolescents and adults. As reported in the manual, the BAI has basically good psychometric properties with internal consistency ranging from .92 to .94. Concurrent validity of the BAI with other self-report measures of anxiety ranged from .15 to .61, with most of the correlations around .51. The BAI was not designed to discriminate between different psychiatric diagnoses and upon testing there was a moderate overlap between

patients with anxiety and those with depression. In a principal-factor analysis researchers found two highly correlated factors in the BAI. One represented somatic aspects of anxiety and the other represented subjective and panic-related aspects of anxiety.

The STAI (Spielberger, 1983) consists of 40 items designed to measure both state anxiety and trait anxiety. The psychometric properties of the STAI are generally good with internal consistency ranging from .90 to .93. It has correlated with other anxiety scales for concurrent validity ranging from .73 to .85. The STAI has been used extensively in research concerning anxiety and has been correlated with personality tests with correlations ranging from .61 to .70. The correlational studies conducted with academic achievement and aptitude tests produced correlations that were essentially zero, indicating that the STAI scales were basically unrelated to achievement and aptitude for college students.

The BDI (Beck & Steer, 1987) consists of 21 items that measure depression in adults and adolescents. The BDI generally has good psychometric properties and has been used extensively in research related to depression. The internal consistency on the BDI ranged from .79 to .90. Correlations of concurrent validity with the depression scales on the Symptom Checklist-90 Revised (SCL-90R; Derogatis, 1983), the Hamilton Psychiatric Rating Scale, and the Minnesota Multiphasic Personality Inventory (MMPI) ranged from .61 to .76. The BDI "was not designed to discriminate among patients with different psychiatric diagnoses" (p. 15). However, the BDI manual does indicate that it has been shown to discriminate between Dysthymia and Major Depressive Disorder. When factor

analyzed, the BDI manual reported that the "number of factors extracted is dependent upon the characteristics of the clinical and nonclinical samples being studied" (p. 19).

The RADS (Reynolds, 1987) consists of 30 items designed to measure depression in adolescents. The internal consistency for the RADS ranged from .90 to .95. Concurrent validity between the RADS and the Hamilton Rating Scale was .83 with a retest 12 weeks later resulting in a correlation of .84 between the two measures. The RADS convergent validity with related constructs such as self-esteem produced correlations ranging from -.67 to -.75. In a factor analysis of the RADS, five factors were identified. These five factors were consistent with broad categories of depressive symptoms. This was believed to "constitute evidence for the validity of the RADS as a measure of depression" (p. 26).

These measures are all well-respected instruments for assessing the narrowband domains of depression or anxiety. One problem with these measures as reported by McGrath and Ratliff (1993) is the limited discriminant validity of the measures themselves for testing what they purport to measure. As a result of their study, McGrath and Ratliff (1993) opined that "mood measures may fail to discriminate between depressed and anxious mood states not because respondents cannot distinguish between them, but because existing measures do not adequately address positive affective states" (p. 165). This illustrates the need for a screening measure like the ISSA to identify both negative and positive affect while screening for internalizing disorders.

Assessment of Broadband Disorders

There are newer measures that have sought to address the discriminant validity problems of the narrowband measures. Although a number of research measures have been developed such as the Positive and Negative Affect Schedule (PANAS) and Positive and Negative Affect Schedule–Children (PANAS-C), few measures have been developed that have been nationally normed. The two most prominent measures that assess the broadband internalizing disorders are the Youth Self Report (YSR; Achenbach, 1991) and the Behavior Assessment System for Children (BASC; Reynolds & Kamphaus, 1992).

The YSR (Achenbach, 1991) consists of 119 items that measure broadband internalizing and externalizing symptoms. Internal consistency of the YSR ranged from .38 to .95, with most of the scales ranging from .75 to .89. The YSR manual indicated that its content validity was supported by the ability of "most YSR items to discriminate significantly between demographically matched referred and nonreferred youths" (p. 82). The scales produced by the YSR include: Withdrawn, Somatic Complaints, Anxious/Depressed (Internalizing); Delinquent Behavior, Aggressive Behavior (Externalizing); Social Problems; Thought Problems; and Attention Problems. The YSR also includes scales for Activities, Social, and Total Competence. The YSR is considered to be an excellent measure but it has drawbacks as far as furthering information on internalizing disorders because it combines anxiety and depression into one scale, the Anxious-Depressed Scale, which does not provide the necessary information to determine whether the person is suffering from anxiety or depression or a combination. However, this is to be expected in a broadband measure as it is merely identifying general emotional

distress. The manual also stated that the most effective way to discriminate between youths was to classify them as normal if their total competence and problem scores were in the normal range and as deviant if both scores were in the clinical range. This scale is rather long and not easily used as a screening measure.

Another measure for assessing child and adolescent emotional and behavioral difficulties is the BASC (Reynolds & Kamphaus, 1992). It is a multimethod, multidimensional measure that provides information about the student regarding behavior, history, emotions, and self-perceptions. The manual stated that the BASC concentrates on emotions and cognitions. The internal consistency for the BASC averaged approximately .80. In a factor analysis of the BASC, three factors were identified that were equated with the school maladjustment composite, the clinical maladjustment composite, and personal adjustment. The BASC's clinical maladjustment composite is closely related to the YSR's internalizing composite. Clinical maladjustment is where depression and anxiety subscales can be found. Both the YSR and the BASC have strengths, psychometrically, and both have research and clinical uses. There are weaknesses to the two measures as well. The BASC, like the YSR, is rather long for a screening measure; however, it does have scales for anxiety, depression, somatization, and withdrawal. Unfortunately, the utility of the YSR and BASC is limited by the inability to assess positive affect, in line with the newer models of affect. An aspect of the YSR and the BASC that decreases their usefulness as screening tools for internalizing disorders is that they do not assess for positive affect.

The most recent measure developed to assess internalizing disorders broadly is the

ISSA. Because the measure is the focus of the study, it will be discussed fully in the methods section.

Self-Concept

The study of the self can be traced back to ancient Greece and has gone through many distinct conceptual models to come to the multidimensional construct as it appears today (Harter, 1996). Erikson (1968) placed great importance on identity development during adolescence in his theory of identity development. It was at this time Erikson opined that the fifth crisis, identity versus identity confusion, had to be positively decided before an adolescent could progress to the next level of psychosocial development, intimacy versus isolation. Adolescence is also considered to be the time when formal operational thought (Piaget, cited in Muuss, 1988), higher skills of deductive reasoning, and more efficient information processing are all coming to fruition (Demo, 1992). In addition to formal operational thinking, a more sophisticated ability in deductive reasoning is developed. These added deductive skills allow adolescents to create and test hypotheses about themselves that can increase their self-consciousness and introspection, in effect, finetuning their concept of themselves. The following sections will provide definitions, assessment of self-concept, and literature concerning correlates of self-concept.

Definitions

There has been much interest in self-concept over the past three decades with more

recent interest in how self-concept relates to mental health. While much of the research has dealt with adults, it is important to investigate the self-concept connection to mental health during adolescence as it is "during this time that newly developed cognitive abilities make self-reflection common and identity questions salient" (Koenig, 1988, p. 112). Epitomizing this, Merrell (1994) stated that "since internalizing problems have sometimes been thought of as being self-related or directed, a psychological construct that is particularly relevant to...internalizing problems is the self-concept" (p. 192).

Researchers have had difficulty defining self-concept, often using the terms self-concept, self-image, and self-esteem somewhat interchangeably. This has led to definitions of three general types, self-image, self-esteem, and self-concept. Webster's Dictionary (9th edition, 1990) defines self-concept as "the mental image one has of oneself" (p. 1065). Pinto and Whisman (1996) expanded the definition of self-concept/self-image, being a mental image of oneself, stating that "self-concept may be reflective of a sense of identity and fit with the environment" (p.164). Some researchers have delineated between self-concept and self-esteem as the first being descriptive and the second being evaluative (Burnett, 1994). In a study by Burnett (1994), self-concept was conceptualized as being a cognitive orientation that combines descriptive and evaluative beliefs, and self-esteem was conceptualized as a cognitive and affective orientation. His study indicated that the

> descriptive and evaluative statements about specific facets or characteristics of the self are closely related and for the most part should not be treated as separate constructs. Additionally, cognitive and affective items can be combined to form a global self-esteem scale. (p. 170)

Bandura (1997) described self-concept as a "composite view of oneself that is presumed to be formed through direct experience and evaluations adopted from significant others" (1997, p. 10). Bracken (1992) views self-concept as a behavioral construct that is a "learned response pattern that reflects the individual's evaluation of past behaviors and experiences, and predicts the individual's future behaviors" (p. 3). For the purposes of this study, Bracken's theoretical model of self-concept was used because it appeared to be an extension or combination of many of these constructs. The mental image of self in conjunction with evaluations of self reflected in behavioral response patterns offered a combination of domains of self-concept that appeared useful. This model allows self-concept to function as a process. Bracken's model (1992) "assumes that individuals automatically evaluate their actions and behavioral outcomes as they interact with their environments" (p. 6), thus making self-concept an evaluative process that gradually changes.

Self-concept is described by Demo (1992) as being a "complex structure and a process, that is stable, but that it is also dynamic" (p. 304). He indicated that self-concept should be considered as a moving baseline that can fluctuate with differing situations but that the basic structure will remain fairly stable, even during the adolescent years. As Damon and Hart (1982) indicated with their developmental model of self-understanding, there appear to be developmental transformations in a person's conceptualizations of self over the life span.

The idea that self-understanding can change with developmental transitions has definite implications for the adolescent developmental period. The acquisition of greater

abilities in deductive reasoning, formal operational thinking, and information processing on a more efficient level can lead adolescents to develop and test hypotheses about themselves. This hypothesis testing comes at a time when adolescents are often introspective and self-conscious, and thus their concept of themselves is likely to be modified during this process. These same transitions may also affect factors that could act to protect the adolescent from the effects of internalizing. Researchers have suggested that higher levels of psychosocial functioning can act as protection from emotional stressors (Papini & Roggman, 1992).

Assessment of Self-Concept

Self-concept has been studied in various arenas (e.g., education, mental health) for many years. The construct was first assessed as a global or unidimensional model, but most of the empirical work indicated that self-concept was multidimensional. The move to study the various domains of self-concept has not excluded the global aspect as it is seen as an important part of the overall evaluation of self. If viewed hierarchically, the global self-concept is at the apex and the various domains constitute the foundational tier (Shavelson, Hubner, & Stanton, 1976). Shavelson et al. identified seven features as being critical to the construct definition of self-concept. The necessary features that describe self-concept include: "organized, multifaceted, hierarchical, stable, developmental, evaluative, differentiable" (p. 411). While there are many instruments available that measure self-concept (e.g., Multidimensional Self-Concept Scale, MSCS, Bracken, 1992; the Coopersmith Self-Esteem Inventory, Coopersmith, 1987; Self-Perception Profile for

Children, SPCC, Harter, 1985; Piers-Harris Children's Self-Concept Scale, PHCSC, Piers, 1984; Rosenberg Self-Esteem Scale, RSES, Rosenberg, 1965), the following are most familiar and well respected. The RSES is unidimensional, reporting only global self-esteem and thus was eliminated from consideration for use in this study. The PHCSC, the MSCS, the SPPC, and the Coopersmith measures are all multidimensional but do not necessarily contain the same domains. Strengths of the measures include consideration of multiple domains and a global/total score. The age range under study was also considered with the goal of having a single measure that could be used to assess all adolescents. Thus, the Harter was eliminated because two measures would be required. Finally, measures that were nationally normed were considered psychometrically more desirable than measures with less representative normative information. After considering the strengths and weaknesses of various measures, the MSCS was chosen for this study as it had a large national sample, adequate age range, multiple domains with a global score, and is well respected. A description of the MSCS will be included in the methods chapter.

Correlates of Self-Concept

According to Harter (1996), the constructs of self-concept and self-esteem have been "invoked as a causal factor in numerous other problem behaviors, (e.g., eating disorders, delinquency including gang membership, antisocial behavior, and teen pregnancy)" (p. 30). While most research does not state that low self-concept "caused" a particular problem, there is sufficient evidence to note that these problems may be related to self-concept in some way. Merrell (1994) stated that there is evidence to suggest that

self-concept does have a "functional role that may impact such diverse aspects of human development as affect, motivation, and energy level" (p. 193).

In an integrative review of 14 studies (Dowd, 1998) concerning the relationship between depression and self-concept, a robust relationship between depression and self-concept was identified. A number of studies have investigated the relationship between depression and self-concept (Bolognini et al., 1996; Cole & Kumchy, 1981; Donnelly & Wilson, 1994; Evans, 1994; McCauley et al., 1988; Moyal, 1977; Papini & Roggman, 1992; Patton, 1991; Simons & Miller, 1987; Williams & Page, 1989). Both clinical populations as well as nonclinical populations using nonreferred subjects have been investigated. The findings of the studies included in the meta-analytic review indicated a moderately high (-.48) relationship between self-concept and depression exists. This suggested that there was a moderate, negative relationship between depression and self-concept with self-concept diminishing as depression increased.

In the review listed above (Dowd, 1998), the consistency and robustness of this relationship suggested that further studies of the basic relationship between depression and self-concept were not needed. However, future studies are needed to further assess the possible changes in the relationship between depression and self-concept with age. Also, there are now newer measures available that need to be considered. It would also be beneficial to look closer at gender, and gender and age affects. Addressing another avenue of possible research, Merrell (1994) stated that it would be logical to assume that self-concept would be negatively associated with internalizing symptoms, but to date no one has looked at that relationship on the broadband dimension of internalizing disorders.

Further, as previously stated, contemporary models of affect have not been investigated to better understand the dynamics of the relationship between depression (internalizing) and self-concept. There have been no known studies to date looking at self-concept and depression using Bracken's MSCS (1992). Also, there have been no studies using the ISSA to assess for broadband internalizing disorders and self-concept.

Purpose and Objectives

As previously stated, the transitional period of adolescence places this age group at risk for internalizing problems. There is sufficient evidence indicating that internalizing problems can have serious and often long-term effects on adolescents. One problem with identifying internalizing disorders is the similar symptomatology among these syndromes. One theory to help differentiate syndromes is that of the tripartite model of affect, looking at positive and negative affect. No one to date has looked at this model in conjunction with internalizing disorders in adolescents. In essence, we have demonstrated the need to further study internalizing disorders in adolescence.

Further, a relationship between depression, one subcategory of internalizing disorders, and self-concept has been solidly established but no one to date has looked at self-concept and how it relates to the broad band category of internalizing disorders. One reason this has not been studied has been the limited number of self-report measures to assess internalizing disorders in adolescents. Great strides have been made in research but there are still gaps that the current research will address. The following research questions are posed:

1. What is the underlying factor structure of the ISSA? Can psychometrically reliable subscales be determined?

2. What is the bivariate relationship between the ISSA total score, subscale scores and the MSCS total and subscale scores?

3. Can the MSCS subscale scores predict internalizing symptoms? Specifically, what percentage of variance in the ISSA total score can the MSCS subscale scores account for?

CHAPTER III

METHODOLOGY

Participants

The participants for this study consisted of middle school and high school adolescents between the ages of 12 and 19. The target population consisted of approximately 1,200 students in the 6th through 12th grades. The final sample came from those students whose parents/guardians signed and returned consent forms, giving their consent for their adolescent to participate in this study. Parents were sent a letter requesting permission for their adolescent to participate. Students were also informed about the study and were given a pen or pencil for participating, as well as the chance at having their name drawn for gift certificates. A minimum rate of 35% was expected, which would have resulted in a sample size of 420. A total of 512 students participated in the study; however, 16 students were excluded from the study due to incomplete or invalid protocols. This made the final sample size 496, which was approximately 41%. The participating adolescents were students attending school in a small city in the Midwest.

The ages ranged from 12 to 19 years of age. The breakdown of students included 217 males (43.8%) and 279 females (56.3%). Grades included in the study were 7th through 12th grades. Refer to Table 1 for further demographic information. The demographic information collected also included questions about parental education. The fathers' education levels ranged from 9.5% who did not finish high school to 9.7% having

Table 1

Demographics of Study Participants

Category	n	%
Age		
12	3	.6
13	15	3.0
14	60	12.1
15	129	26.0
16	141	28.4
17	113	22.8
18	34	6.9
19	1	.2
Grade		
7th	4	.8
8th	32	6.5
9th	167	33.7
10th	133	26.8
11th	120	24.2
12th	40	8.1
Ethnicity		
Caucasian	408	82
African American	10	2
Native American	18	4
Asian	22	4
Hispanic	29	6
Other	5	1
Did not respond	4	.8

some graduate school. Mothers' education levels ranged from 9.1% who did not finish high school to 7.9% having some graduate school. The number of parents who had completed college degrees was 27% for fathers and 35% for mothers.

Instrumentation

The Internalizing Symptoms Scale for Adolescents

The Internalizing Symptoms Scale for Adolescents (ISSA) is 63-item self-report instrument, designed to assess internalizing symptoms in adolescents (see Appendix A). The ISSA is a newly developed instrument designed to fill the current gap in the assessment and evaluation of internalizing disorders in adolescents. Part of this study was to provide information on the validity of this measure. Items for the ISSA were structured following the guidelines used to develop items for the Internalizing Symptoms Scale for Children (ISSC; Merrell & Walters, 1996) with the items being geared for adolescents rather than children. The ISSA follows the endorsement format of the ISSC based on a 4-point Likert scale. Respondents can choose from: "never true," "hardly ever true," "sometimes true," or "often true."

The ISSA was designed to provide information on the following four domains of internalizing symptoms: (a) depression, (b) anxiety, (c) somatic complaints, and (d) social withdrawal. However, given the previously identified limitations of existing assessment tools (e.g., poor discriminant validity, combined anxiety-depression scales), the ISSA was constructed to include items assessing positive affect along with the assessment of psychological distress. General distress or negative affect is characterized by feelings of distress, fear, anger, or nervousness and includes items such as: "Things are hard for me," "I have trouble sleeping," "I feel like crying," and "I don't feel like doing anything." The construct of positive affect reflects an overall enjoyment of life and feelings of joy and

enthusiasm and includes items such as: "I laugh and smile as much as other people," "I don't give up when things get tough," and "I have lots of energy." The ISSA's 4-point Likert scale is scored using 0, 1, 2, and 3, which produces a range of raw scores from 0 to 189. It is important to note that positive items are reverse scored so that a higher score always indicates more symptoms. Because the ISSA is newly developed, there is currently no research information available on the psychometric properties of ISSA scores.

However, information on the ISSA's predecessor, the ISSC, indicates that it is a psychometrically sound self-report instrument for assessing the broad domain of internalizing symptomatology in children with substantial content validity. In research on the ISSC, Merrell et al. (1997) reported a strong and stable two-factor solution for the ISSC identifying negative affect/general distress and positive affect factors. Internal consistency for the ISSC total score was .91 and the coefficients for the two factors were .91 for Factor 1 and .85 for Factor 2. In a test-retest study the ISSC had stability coefficients ranging from .74 (12-week) to .90 (2-week). The ISSC was compared with the STAIC, the RCDS, the RCMAS, the CDI, and the YSR, and the results indicated strong convergent construct validity for the ISSC as a broadband measure of internalizing symptomatology.

The Multidimensional Self-Concept Scale

The Multidimensional Self-Concept Scale (MSCS; Bracken, 1992) is a 150-item self-report measure of self-concept (see Appendix B). This scale was designed to assess self-perceptions in six domains of self-concept: social, competence, affect, academic,

family, and physical. This measure also generates a global self concept score referred to as the total scale. The MSCS follows the endorsement format of a modified 4-point Likert scale with options being: strongly agree, agree, disagree, strongly disagree. The items are positively or negatively worded statements such as: "I have a lot of friends" or "My parents don't trust me." It produces the following types of scores: standard scores (both deviation quotients and T scores), percentile ranks, and self-concept classifications. The standard scores were determined by using percentile rank to standard score conversions. The final distribution was based on an IQ Metric with a mean of 100 and a standard deviation of 15. This was done so the self-concept score could be easily compared with other constructs using the same common metric. This was also the reasoning behind developing the T-scores ($M = 50$, $SD = 10$), so these scores could be easily compared with those constructs that are assessed and reported using this system. The use of self-concept classifications allows the examiner to put a verbal descriptor to the level of adjustment on a negative to positive continuum, ranging from extremely positive to extremely negative self-concept. Bracken developed the MSCS with the intent that each subscale would represent a specific domain of self-concept (e.g., competence, affect, academic, family, physical, and social).

Although the six domains are not mutually exclusive and do have considerable overlap, each domain needs to be understood in its own context. Each subscale represents a domain and is made up of 25 questions pertaining to that domain construct. The subscale titled "social" refers to how a child interacts socially with other people. The concept "other people" refers to everyone a child interacts with, including family, friends,

teachers, neighbors, and strangers. Sample questions from this domain include: "Most people like me," "I have a lot of friends," and "Many people have a low opinion of me." The subscale "competence" refers to how children evaluate their actions in their environment. Whether they are successful in attaining their goals and can function effectively in their environment. Sample questions from this domain include: "Too often I say the wrong thing," "I don't seem to have any control over my life," and "I can do most things pretty well." The "affect" subscale considers a child's affective behavior patterns. Questions in the affect domain include items such as: "There are many things I would like to change about myself," "I have a positive outlook on life," and "I am frequently confused about my feelings." The subscale titled "academic" refers to how the child perceives his or her functioning in school-related areas. Sample questions include: "I frequently feel unprepared for class," "I can spell better than most people my age," and "I learn fairly easily." The domain considered in the "family" subscale refers to those people to whom the child looks for care, security, and nurturance. This may be a traditional family unit or may be another arrangement that has taken the place of the traditional unit such as foster family, stepfamily, extended family, or surrogate family. Questions from this domain include items such as: "My home is warm and caring," "My family ruins everything for me," and "My parents care about my future." The last domain is that of the subscale titled "physical." This refers to the child's physical body and the condition of their body. A child receives information in direct and indirect ways pertaining to his/her physical attributes that affects the way a child feels about him/herself. Sample items include: "I am attractive," "I am stronger than most people," and "My hair never seems to

look very good." The 25 questions included to sample each domain are scored 1, 2, 3, or 4, which provides a range of raw scores from 25 to 100.

According to the manual the MSCS subscales can be administered individually or in combination, but each subscale should be interpreted as verification of how the adolescent is perceiving his/her self-concept in that domain. For research purposes, raw scores for each scale were used for analyses. When the test is used on an individual basis, the raw scores are converted to standard scores for interpretation purposes.

The MSCS was normed on 2,501 students ranging from 9-19 years of age or Grades 5-12. These students were located in 17 different sites in all major regions of the United States and closely resemble the U.S. population demographics. The internal consistency reliability for the total scales score ranged from .97 to .99, while internal consistency for the domain specific scores ranged from .85 to .97. The MSCS manual reports validity based on content, construct, concurrent, contrasted groups, and divergence. Content validity is demonstrated through an extensive review of the literature providing support for the six self-concept domains that are represented in the MSCS. Concurrent validity was explored in studies comparing the MSCS with the Coopersmith Self-Esteem Inventory, the PHCSC, the Self-Description Questionnaire-I, and the Self-Description Questionnaire-II. The Total Scale score correlations ranged between .69 and .85, with these criterion measures, suggesting that the tests assess similar constructs. The reading level required for this instrument is at the third-grade level. Administration time was between 20-30 minutes.

Procedure

Approval for the present study was obtained from the Institution Review Board (IRB; Appendix C) at Utah State University and the appropriate school district administrative personnel. Parents of the adolescents in the school district involved were sent a letter by mail explaining the study and requesting consent for their child to participate in this study. Copies of the letter and consent form are included in Appendix D. Incentives were provided to encourage return of the consent forms. All signed consent forms were placed in a box for drawings for 10 Chamber of Commerce gift certificates per school in the amount of $10 to be spent at any of approximately 140 participating merchants. Participating students were also given their choice of a USU pen or pencil upon completion of the questionnaires. Participation was voluntary and those students who did not wish to participate were required to study quietly as directed by their teachers during the test administration. Students were administered the two measures during a regular classroom period that was chosen in cooperation with the schools' principals. The high school allotted one period of the day for all students to participate at the same time. Teachers were provided with enough individual packets for each student participating in their classroom. Each packet contained a demographics questionnaire, the MSCS, and the ISSA. The examiner gave instructions over closed circuit television to all classrooms at one time. If participants had questions, they were allowed to contact the examiner who then provided the question and answer to all students in case others had the same question.

The middle school testing was done over various periods with participants being pulled out of their regular classrooms and sent to one location for testing purposes where the examiner was on hand to give instructions and answer questions. In all cases, the order of administration was randomly varied. The packets containing the test protocols were organized in advance, alternating which protocol was first and which was second. In the high school the packets were distributed to the classroom teachers in bundles, and how the individual teachers distributed the packets to the students was left to the discretion of the teacher. In the middle school, the examiner handed out the packets as the students entered the room. Students were asked to complete a brief demographic questionnaire in addition to completing the two test protocols (see Appendix E).

CHAPTER IV

RESULTS

The chapter will be organized in line with the research questions presented in Chapter II. Prior to the presentation of results, preliminary analysis of the data including mean, standard deviation, and Cronbach's alpha were calculated for each measure. Missing values were substituted with the item mean score. This procedure is a way of dealing with protocols that have small numbers of missing data that are otherwise complete as suggested by Gorsuch (1983). Subsequently, each research question will be addressed.

Preliminary Analyses

Preliminary analysis includes the means for ISSA total and MSCS total scores. Results are presented in Table 2 for the entire sample, as well as separate means for each grade and for males and females. Means for the MSCS total ranged from 445.22 for 10th graders to 484.47 for 8th graders. Means for the ISSA total ranged from 45.50 for 7th graders to 70.04 for 10th graders.

Internal consistency coefficients for MSCS scale and subscales, and ISSA total were calculated and are presented in Table 3. Coefficient alphas were all high and ranged from .89 for the Competence Scale to .98 for the MSCS total.

Intercorrelations between the MSCS subscale scores and total scores were calculated and are presented in Table 4. The correlations were generally moderate to high

Table 2

Means and SD of Test Protocols

	ISSA total		MSCS total	
	Mean	SD	Mean	SD
Full sample	66.29	28.26	451.61	62.84
Males	60.98	26.73	450.76	66.44
Females	70.43	28.77	452.27	59.99
7th	45.50	21.64	476.25	72.43
8th	54.66	30.00	484.47	62.95
9th	65.13	27.14	450.55	65.34
10th	70.04	29.06	445.22	61.15
11th	69.22	28.11	446.92	61.30
12th	61.33	26.81	462.60	54.61

Note. N = 496.

Table 3

Reliabilities for MSCS and ISSA Scales

Scale	Alpha
MSCS total	.98
Social	.92
Competence	.89
Affect	.94
Academic	.92
Family	.97
Physical	.93
ISSA total	.96

Table 4

Correlations Within MSCS Scales

Subscales	Total	Social	Comp	Affect	Academ	Family
Soc	.80					
Com	.89	.71				
Aff	.91	.73	.80			
Acc	.81	.53	.77	.66		
Fam	.78	.45	.61	.64	.57	
Phy	.82	.65	.65	.74	.55	.51

and ranged from .45 between social and family, to .91 between total and affect.

Factor Structure for the ISSA

The first research question addressed the underlying factor structure of the ISSA. Factor analysis was run using the Principal Axis Factoring extraction method. This method was chosen because it extracts the maximum amount of variance of the variables that can be extracted with the fewest factors (Gorsuch, 1983). Gorsuch indicated that a prime characteristic of this procedure is that each factor accounts for the maximum amount of the variance of the variables being factored. The factors are then based on highly correlated items. Another reason to use the Principal Axis Factoring extraction method was that it isolates factor structures mathematically without considering the theoretical expectations of the researchers. Based on eigenvalues greater than 1, solutions with between one and nine factors were considered. Both oblique and orthogonal rotations were considered. The item "I hate being the center of attention" was dropped

was dropped due to poor psychometric performance as it did not load substantially on any factor regardless of solution and had a low item-total correlation (.28). Subsequent analyses were conducted using the remaining 62 items. Internal consistency reliability for the 62-item Total Score was .96. Item contents and item-total correlations for the final ISSA Scale are presented in Table 5.

A two-factor solution was identified as superior to any other factor solution (i.e., 1 to 9 factors). The solution was selected based on examination of the scree plot, the number of loadings and double loadings per factor, and interpretability. As stated previously, both orthogonal and oblique rotations were considered. The orthogonal solution was very similar to the results obtained using an oblique rotation; however, the orthogonal rotation resulted in fewer double loadings than the oblique two-factor solution. The orthogonal rotation converged after three iterations, provided the most parsimonious solution, and was the final solution identified. For comparison, the pattern and factor matrices for the oblique two-factor solution are included in Appendix F.

In the final solution, the two factors accounted for 34.2% of the total variance. Factor 1 accounted for 27.45%, and Factor 2 accounted for 6.79% of the variance. The factor matrix for the two-factor solution with item-total correlations for each factor is presented in Table 6. Item-total correlation coefficients assess the magnitude of the relationship between the item and the scale and are used to assess if the item adequately reflects the construct being measured. Generally, item-total correlations below .25 to .30 suggest that the item may not belong in the domain being measured. The item-total correlations were generally moderate to high, ranging from .32 to .72 on Factor 1 and .43

Table 5

Item Content of ISSA/Factors

Item content	Item-total Correlation	
Factor 1: Negative affect/General distress		
1. I am shy	.32	
2. I worry about things	.44	
4. I have bad dreams	.42	
6. Things are hard for me		.44
7. I feel lonely	.57	
8. I worry that I will hurt someone	.37	
10. I have trouble sleeping.		.51
11. I feel like I might faint.		.39
12. I get upset easily	.47	
14. I feel like I have made too many mistakes	.58	
15. Lots of things scare me		.48
17. I feel like crying	.58	
18. When there is a problem it is my fault		.53
19. I have a difficult time breathing		.40
21. I worry that something bad will happen		.62
23. I feel sad	.73	
24. I get scared for no reason	.56	
25. I feel sick to my stomach	.56	
27. I feel restless	.41	
28. I would rather be alone than with other people		.49
29. I have a hard time concentrating on things	.52	
30. I feel sorry for myself	.61	
31. My feelings get hurt easily	.60	
33. I have a hard time making up my mind		.52
34.[a] I think about hurting myself	.59	
36.[a] It seems like no one cares about me	.68	
38. I feel very tired		.52
39. I don't feel like doing anything		.54
41. I worry that other people will not like the way I do things	.44	
43. Bad things happen to me	.59	
44. I think about dying	.61	
45. My hands and feet feel sweaty		.47
47. I can't do anything right	.64	
48. I feel nervous	.57	
49. I get embarrassed easily	.45	
50. I have lots of aches and pains	.54	

(table continues)

Item content	Item-total	Correlation
51. Sometimes I feel like I am going to explode	.59	
52. I feel confused		.66
55. I feel guilty	.57	
56. I feel terrible when I make mistakes	.35	
58. Things I used to like aren't fun anymore	.41	
59. I'm afraid that I will fail		.51
60.[a] I'm not as good as my parents want me to be		.48
62. It feels like I have a lump in my throat		.46
Factor 2: Positive affect		
3. I feel cheerful	.42	
5. I feel important		.52
9. I have lots of energy	.42	
13. I am good at lots of things	.44	
16. Other people like me	.39	
20. I do things as well as other people my age	.38	
22. I am comfortable with the way I look		.49
26. I laugh and smile as much as other people	.49	
32. I don't enjoy anything		.52
34.[a] I think about hurting myself	.59	
35. I do well in school	.37	
36.[a] It seems like no one cares about me	.68	
37. I feel happy	.52	
40. I like myself	.62	
46. I feel like doing things with other kids my age		.64
53. I feel great	.65	
54. I believe things will turn out okay for me	.54	
57. I don't give up when things get tough		.32
60.[a] I'm not as good as my parents want me to be		.48
61. I try again when I lose	.44	
63. I feel calm and relaxed		.56

[a]Items that cross-loaded.

to .73 on Factor 2. One item had a relatively weak loading on Factor 1 (.32) and a relatively low item-total correlation (.32). However, the item "I am shy" was deemed clinically important and was retained. Three items double loaded and were retained on both factors: "I think about hurting myself," "It seems no one cares about me," and "I'm

not as good as my parents want me to be." Because some items on the ISSA were reverse scored, it could be understood how these items could load on both factors. On Factor 1 a high score on "I think about hurting myself" would indicate more distress, but on Factor 2 with its reverse score, a high score on the same statement would actually indicate that the person does not think of hurting himself.

Interpretively, Factor 1 was labeled negative affect and appears to reflect negative affect and general distress. There were a total of 44 items on Factor 1 with item-total correlations ranging from .32 to .72. Typical items loading most highly on Factor 1 include "I worry about things" (.55), "I feel like crying" (.67), "My feelings get hurt easily" (.68), and "I feel confused" (.71). Internal consistency reliability for Factor 1 was .95. The loadings and item-total correlations per factor for each item are presented in Table 6.

Factor 2 appears to reflect positive affect and was labeled as such, with typical items being "I feel cheerful" (.59), "I laugh and smile as much as other people (.71), "I like myself" (.71), and "I feel great" (.76). There were a total of 20 items on Factor 2 with item correlations ranging from .43 to .73. Internal consistency reliability for Factor 2 was .92. The loadings and item-total correlations per factor for each item as per factor are presented in Table 6.

Internal consistency reliability for the Total Score in the two-factor solution was .96. Descriptive statistics were conducted for the new subscales, negative affect (NA) and positive affect (PA), as well as the mean for the modified ISSA total (i.e., with the poor performing item deleted). Results are presented in Table 7 for the entire sample, as

Table 6

ISSA Factor Analysis: Rotated Two-Factor Solution and Item-Total Correlations

Item	Factor 1 Negative affect	Factor 2 Positive affect	Item-total Factor 1	Item-total Factor 2
1	.32[a]	.11	.32	
2	.60[a]	.00	.51	
3	.11	.58[a]		.56
4	.46[a]	.00	.46	
5	.19	.64[a]		.64
6	.44[a]	.14	.45	
7	.51[a]	.30	.57	
8	.38[a]	.12	.39	
9	.10	.59[a]		.56
10	.45[a]	.25	.51	
11	.40[a]	.13	.41	
12	.54[a]	.00	.51	
13	.14	.58[a]		.58
14	.53[a]	.28	.58	
15	.56[a]	.00	.52	
16	.00	.58[a]		.55
17	.68[a]	.00	.63	
18	.55[a]	.17	.56	
19	.34[a]	.24	.39	
20	.00	.55[a]		.54
21	.67[a]	.16	.66	
22	.26	.50[a]		.54
23	.67[a]	.33	.72	
24	.55[a]	.22	.57	
25	.60[a]	.16	.60	
26	.10	.71[a]		.68
27	.38[a]	.19	.41	
28	.41[a]	.29	.47	
29	.47[a]	.24	.53	
30	.58[a]	.27	.62	
31	.68[a]	.12	.65	
32	.30	.50[a]		.51
33	.54[a]	.16	.54	
34[b]	.39[a]	.50[a]	.53	.57
35	.00	.55[a]		.53

(table continues)

Item	Factor 1 Negative affect	Factor 2 Positive affect	Item-total Factor 1	Item-total Factor 2
36[b]	.51[a]	.49[a]		.59
37	.14	.73[a]		.69
38	.55[a]	.16	.55	
39	.50[a]	.26	.55	
40	.32	.64[a]		.69
41	.53[a]	.00	.49	
43	.52[a]	.32	.59	
44	.50[a]	.38	.59	
45	.42[a]	.24	.46	
46	.00	.53[a]		.48
47	.53[a]	.39	.62	
48	.64[a]	.11	.61	
49	.52[a]	.00	.49	
50	.53	.22	.56	
51	.57[a]	.23	.61	
52	.67[a]	.23	.69	
53	.32	.70[a]		.73
54	.21	.66[a]		.66
55	.58[a]	.19	.59	
56	.49[a]	.00	.42	
57	.00	.50[a]		.48
58	.37[a]	.19	.41	
59	.56[a]	.11	.55	
60[b]	.35[a]	.36[a]	.45	.43
61	.15	.57[a]		.58
62	.39[a]	.27	.45	
63	.30	.56[a]		.61

Note. On factor loadings, [a] numbers indicate the factor to which the item is assigned. Three items are cross-loading on both factors and are indicated with [b].

well as separate means for each grade and for males and females as well as for each factor. The Means and Standard Deviations were as follows: Total Scale $\underline{M}$ = 65.14, $\underline{SD}$ = 27.97; Factor 1 (NA) $\underline{M}$ = 52.97, $\underline{SD}$ = 21.95; Factor 2 (PA) $\underline{M}$ = 14.99, $\underline{SD}$ = 10.54, noting that positive affect items are reverse scored with higher scores indicating more symptomatology.

Table 7

Means and SD of Revised ISSA Protocol

Revised ISSA	ISSA total		Factor 1		Factor 2	
	Mean	SD	Mean	SD	Mean	SD
Full sample	65.14	27.97	52.97	21.95	14.99	10.54
Males	59.69	26.28	46.86	19.93	15.48	10.82
Females	69.37	28.55	57.72	22.31	14.61	10.33
7th	44.00	20.80	33.75	14.64	12.75	11.76
8th	53.63	29.66	44.81	24.56	10.66	8.27
9th	64.02	26.89	52.26	21.32	14.58	10.76
10^{th}	68.80	28.76	55.86	22.57	16.01	10.26
11th	68.08	27.80	55.32	21.67	15.78	10.67
12th	60.10	26.51	47.70	21.95	14.63	11.29

Note. $N = 496$.

Relationship Between Internalizing Symptoms and Self-Concept

The second research question studied the relationship between the ISSA total score and subscales scores identified in the previous question and the MSCS total and subscale scores. To evaluate relationships between internalizing symptoms and self-concept, bivariate Pearson product-moment correlations were computed and are presented in Table 8. For the present analysis, an alpha level of $p < .01$ was selected as a cutoff to determine statistical significance. The more restrictive alpha level was selected to offset the high number of correlations calculated. Utilizing an alpha at this level will help control

Table 8

Correlations Between MSCS and ISSA

	ISSA scores		
MSCS scores	Total	Negative affect	Positive affect
Total	-.74	-.64	-.78
Social	-.61	-.53	-.62
Competence	-.64	-.54	-.70
Affect	-.78	-.71	-.73
Academic	-.54	-.44	-.63
Family	-.51	-.42	-.60
Physical	-.65	-.58	-.62

Note. All correlations were statistically significant at the $p < .01$ level. Positive affect is reversed scored.

for experimental error and reduce the probability of making a Type I error.

The correlations between the ISSA total and subscale score and the MSCS scores, both total and subscale, were inversely related as expected. These relationships were moderate to large in magnitude, ranging from .42 to .78. While all correlations were statistically significant at the $p < .01$ level, the MSCS subscale affect had the strongest relationship with internalizing symptoms ($r = -.78$). Affect also indicated the largest magnitude with the ISSA negative affect and positive affect scores ($r = -.71$ and -.73, respectively).

Prediction of Internalizing Symptoms by Self-Concept Scores

The third research question concerned how much of the variance in the ISSA total

score could be accounted for by the MSCS subscale scores. Multiple regression analyses were conducted to ascertain the percentage of variance in the ISSA Total Score accounted for by the MSCS subscale scores. A block entry method was used to enter all MSCS subscales simultaneously. The block entry method was chosen due to the well-documented limitations of stepwise entry methods (Huberty, 1989; Thompson, 1995). To review briefly, stepwise entry methods do not identifying the best predictor set of variables and tend to produce nonreplicable results. Stepwise entry methods assume that the entered predictors are the best set of predictors and only look at results with those predictors entered. Block entry considers all possible predictors. Results of the block entry method indicated that the MSCS subscales accounted for a statistically significant percentage of the variance in the ISSA total score, F (6,489) = 135.28, $p < .0001$. The predictors accounted for 62% of the variance of the ISSA total score. Results are presented in Table 9.

One method of assessing the contribution of each individual MSCS subscale in explaining the variance of the ISSA total score is to examine the relative values and significance levels of the standardized beta coefficients (β) obtained in the block entry regression equation (Table 9). These standardized beta coefficients indicated that the affect scale and physical scale explained statistically significant proportions of the variance of the ISSA total score. Indications from the block entry method regression analyses suggest that not all subscales were necessary to explain the variance of the ISSA total score.

Table 9

Summary of Simultaneous Regression Analyses for MSCS Subscales/ISSA Total Score

Scale	B	SE B	β	t.	Sig.
Constant	197.19	6.24		31.63	.000
Social	- .12	.11	-.05	-1.09	.277
Competence	.00	.16	.02	.28	.779
Affect	-1.32	.12	-.62	-11.00	.000
Academic	.00	.10	-.02	-.52	.604
Family	.00	.07	-.01	-.19	.854
Physical	-.34	.09	-.16	-3.69	.000

Note. Total $R^2 = .62$ ($p < .05$).

To identify the best set of predictor subscales and to determine how few subscales could be used, multiple regressions were conducted with all possible combinations of MSCS subscales. In total 62 regressions were conducted. Summarizing, the family score was the least predictive subscale score by itself accounting for only 26% of the variance in ISSA total score. The results indicated that the affect subscale alone accounted for the most variance, 61% of the ISSA total score. The range of variance accounted for by any two MSCS subscales went from 35% to 62%. The best two-variable predictor set was the combination of the affect and physical scales that, when combined, accounted for 62% of the variance. Considering sets of three MSCS subscale scores, the variance accounted for in the ISSA total ranged from 43 - 62%. Regressions with sets of four and five MSCS subscales accounted for ISSA variance ranging from 48 - 62%, and 53 - 62%,

respectively. The variance accounted for in the ISSA total score by the MSCS subscales did not exceed 62%. The results of the multiple regression analyses are included in Appendix G.

CHAPTER V

DISCUSSION

The present study examined internalizing symptoms and self-concept in adolescents. The first research question examined the underlying factor structure of the ISSA. The second research question examined the bivariate relationship between the ISSA total score and the MSCS subscale scores. While the third research question determined whether the MSCS subscale scores could predict internalizing symptoms by examining the variance in the ISSA total score accounted for by the MSCS subscale scores. This chapter contains a discussion of the main findings and possible implications for clinical use and future research as well as the limitations of the study.

Factor Structure for the ISSA

A two-factor structure was superior to any other solution considered for the ISSA. The two-factor structure was strong and clinically interpretable, as well as being the most parsimonious solution. The two factors were identified as negative affect/general distress and positive sffect. This was the first attempt to identify subscales in the ISSA and so is considered tentative until further research can replicate the findings. At this point in time it appears to be most practical to view the measure as a whole until more research has been conducted that would add support for the two factors. Consequently, the subscales can be considered research tools at this time, but are likely to be useful in further studies of internalizing disorders with emphasis on differences in positive affect and negative

affect. However, preliminary analyses suggest that the ISSA supports Clark and Watson's (1991) tripartite model of affectivity with a distinction between negative affect and positive affect.

One possible solution for the scale was that it would produce four factors, reflecting each of the narrow band domains of internalizing disorders: depression, anxiety, somatic complaints, and social withdrawal. However, considering the appreciable comorbidity among internalizing disorders and the shared symptoms, it was not surprising that four separate factors were not identified. The high levels of comorbidity have spurred the discussion between various researchers as to whether internalizing disorders are actually distinct disorders or one broad disorder (Callahan et al., 1996; King et al., 1991; Reynolds, 1992) and spurred the development of broader assessment measures such as the ISSA. When considering the diagnostic criteria in the DSM-IV (APA, 1994) for the different internalizing disorders, it is apparent that they share many of the same symptoms. One characteristic of anxiety that is not typically shared with the other internalizing disorders is physiological arousal or hyperarousal. The tripartite model posits that

> Negative Affect is a nonspecific factor that is common to both depression and anxiety; the influence of this common factor helps to explain the strong association between measures of these constructs. In contrast, (low) Positive Affect is a specific factor that is relatively unique to depression. (Watson et al., 1995, p. 4)

The tripartite model hypothesized that physiological arousal with symptoms of somatic tension is unique to anxiety. While the ISSA did not target physiological arousal, there are three items that did address it. However, a factor would not be expected from such a small number of items. Thus, to differentiate fully between the disorders in a brief

assessment measure have been extremely difficult, if not impossible, until measures like the ISSA that appears to assess for positive and negative affect in conjunction with determining presence of internalizing symptomatology.

The two-factor solution of the ISSA provides some support for Clark and Watson's (1991) tripartite model of affectivity. This theory has been studied and supported in research primarily conducted with adults (Joiner, 1996; Watson, Clark, & Carey, 1988; Watson et al., 1995). Researchers have only recently extended their studies of expressions of distress to include adolescents and children. The ISSA was developed to assess internalizing disorders while also assessing for both positive and negative affect as operationalized by Watson and Clarke and the two-factor solution supports the two domains targeted. Thus, the findings of the present study provide additional support for the comparability of the tripartite model between adults and adolescents. Other studies have found similar support for positive and negative affectivity in children and adolescents. Most recently, Lonigan, Hooe, David, and Kistner (1999) investigated "the structure of self-reported affect and its relations to depressive and anxious symptoms in school children (4th to 11th grade)" (p. 374). They compared younger children with a mean age of 10.3 to older children with a mean age of 14.2. Their study indicated that "relations of NA and PA with measures of anxious and depressive symptoms were largely consistent with the tripartite model" (p. 381).

The ability to measure positive and negative affect is important in the classification and assessment of internalizing disorders. The information from the ISSA total score and subscale scores can be beneficial to both researchers and clinicians. The total score will

provide information on the presence or absence of internalizing symptoms in the adolescent. The higher the total score, the more distress the adolescent is experiencing. At the subscale level the scores on negative affect will generally be high if any internalizing symptoms are present, simply because all internalizing disorders reflect negative affect or general distress. Consequently, a high score on the total score or negative affect may indicate problems with depression, anxiety, somatic complaints, or social withdrawal, or a combination of disorders, and would be a red flag for a clinician to further investigate the adolescent's distress. The content of items endorsed may provide some insights for clinicians regarding the symptoms requiring further investigation. General distress is common to most psychological measures. Scores on the positive affect scale will help determine whether the adolescent is experiencing more depression (high scores indicating low positive affect), or more anxiety (with scores indicating lower average or higher levels of positive affect). This differentiation could benefit clinicians as they determine intervention strategies. While there are some similar strategies in treating depression and anxiety, there are more differences in treatment between the two. The differences in treatment are apparent from almost any theoretical background and can include the use of different psychotropic medications. Lonigan, Elbert, and Johnson (1998) noted the increasing pressures to "demonstrate the efficacy and value" (p. 139) of various interventions. These pressures come from managed care, governmental agencies, and professional organizations. To address these pressures, various psychologists are conducting research to gather information on empirically supported interventions to prove efficacy of various treatment models. In a review of studies of psychosocial interventions

for children and adolescents with depression, Kaslow and Thompson (1998) discussed strengths and weaknesses of the empirically supported treatment approach. They did state that the majority of intervention programs were based on a cognitive-behavioral model and were found to be effective in reducing depressive symptoms. These positive treatment effects were noted regardless of modality (group, individual, or family), and typically included some components of social skills and social competence training, cognitive restructuring, problem-solving, and relaxation techniques. Ollendick and King (1998) reviewed empirically supported treatments for children with anxiety. They found that several behavioral and cognitive-behavioral treatments (imaginal desensitization, in vivo desensitization and modeling) were more effective in decreasing anxiety than wait-list control conditions or placebo treatment. Ollendick and King (1998) also reviewed between-group studies involving cognitive-behavioral therapy alone and cognitive-behavioral therapy plus family anxiety management, with indications of probable efficacy in the treatment of anxiety in children. The different treatments support the need for clinicians to be better able to separate the two disorders. As clinicians strive to provide the most effective treatment for their adolescent clients, it may be beneficial to review the empirically supported treatment data on various disorders.

Relationship Between Internalizing Symptoms and Self-Concept

The second research question studied the relationship between the ISSA scores and the subscale scores of MSCS. The relationship was inversely related as had been expected, meaning that the more positive an adolescent's level of self-concept the lower

the internalizing symptoms. This relationship makes intuitive sense as well as confirms the previous findings regarding the single internalizing disorder, depression, and self-concept (Dowd, 1998; Kazdin, 1988). One could expect that if an adolescent did not have a positive self-concept, he or she would be more unsure of him/herself and more at risk for negative cognitions and negative affect.

An interesting finding in the study was that PA had stronger relationships (-.60 to -.73) with all MSCS subscales than the NA factor (-.42 to -.71). It would appear that lack of positive affect may be more strongly associated with self-concept than the presence of negative affect. This finding was supported by a previous study by Tarlow and Haaga (1996) that found that self-concept scores were more strongly related to positive affectivity than to negative affectivity.

Other findings in the study regarding MSCS subscales were noteworthy as well. The relatively stronger relationship with both total score and negative affect was with the physical subscale (-.65 and -.58, respectively). This suggests that how an adolescent perceives himself physically is more important to emotional well-being (e.g., the absence of internalizing symptoms) than his perceived relationship with family, which had a somewhat weaker relationship (family subscale, total score = -.51) or peers (social subscale, total score = -.61). Typical items on the MSCS physical subscale include: "I am attractive," "I am physically fit," "I would change my looks if I could," and "I am in poor shape." Items on the social and family subscales include such things as: "Most people like me," "Many people have a low opinion of me," "My family makes me feel loved," and "My home is not a happy place." The weaker relationship between internalizing

symptoms and family self-concept is less surprising considering that adolescence is typically considered a time when children individuate from family and become more independent (Steinberg, 1989). However, it is more surprising that the social subscale had a relatively lower relationship with internalizing symptoms. One might have anticipated the social subscale predicting more variance than it did because of the importance adolescents place on peer relationships (Boivin et al., 1995; Rubin et al., 1995). Generally, peer relationships and peer opinion hold significant influence with adolescents. However, apparently social relationships are less related to internalizing symptoms in comparison to physical appearance. Appearance is very important to adolescents as they often focus on wearing the "right" clothes, having their make-up and hair "perfect," and are generally concerned with how they look.

The findings of the present study increase the research base regarding self-concept to include internalizing disorders and not just depression. No researchers had previously investigated self-concept with internalizing disorders although many had looked at depression (Donnelly & Wilson, 1994; Longmore & DeMaris, 1997; Simons & Miller, 1987). To broaden the database to include the broadband construct of internalizing disorders gives researchers and clinicians more information to address not only internalizing disorders but self-concept as well.

1.Predicting Internalizing Symptoms with MSCS Subscale Scores

The third research question considered whether the MSCS subscale scores could predict internalizing symptoms. The combined subscale scores accounted for an

impressive 62% of the variance in the ISSA total score. This finding indicates that self-concept is a robust predictor of internalizing disorders. Similar findings have been reported by other researchers. For instance, a recent longitudinal study by Cole, Peeke, Dolezal, Murray, and Canzoniero (1999) examined negative affect and self-perceived competence. They operationalized negative affect as the common factor of anxiety, depression, and negative emotions (much like internalizing disorders). It was noted in their study that social self-concept predicted changes in negative affect. They found that a decline in an adolescent's social self-concept could predict an increase in negative affect that is equated with more emotional distress. Thus the similarity with the present study--lower self-concept predicted higher levels of internalizing symptoms. Specifically, the present study found correlations of -.61 between the social subscale and total score and -.53 between the social subscale and negative affect.

The individual MSCS subscale scores varied markedly in amount of variance accounted for in the ISSA total score. The best single predictor was the affect subscale, with 61% of the variance. The affect subscale items were constructed to measure levels of emotional well-being or distress and include items such as: "I am not a happy person," "I feel loved," "Sometimes I feel worthless," and "I enjoy life." Consequently, the contents of the ISSA and the affect scale of the MSCS are quite similar as reflected by the ISSA items: "I feel cheerful," "I feel lonely," "I feel sad," and "I like myself." The second best single predictor was the physical subscale that accounted for 43% of the variance in the ISSA total score. Thus, as previously stated, how adolescents perceive themselves physically is an important marker for emotional well-being or distress, depending on their

physical self-concept. The competence subscale followed the physical subscale closely, accounting for 41% of the variance in the ISSA total score. The other subscales, social, academic, and family, accounted for lesser amounts of variance (26 - 37%). The lesser variance accounted for by subscales such as family indicate that these aspects of self-concept cannot be used to predict internalizing symptoms with as much strength. Because of the high intercorrelations with different aspects of self-concept, not all subscales were needed to predict internalizing symptoms.

The differences in the various MSCS subscale scores in ability to predict internalizing symptoms was interesting. One interesting aspect of the findings was the wide range in variance accounted for by the subscales. This speaks to the importance of considering the different domains of self-concept and not just looking at the broad construct or global score. It appears that the separate domains hold differing amounts of importance in an adolescent's self-image. And that the different domains influence emotional well-being in varying degrees. Scores from the different domains provide information to the clinician as to where an adolescent perceives himself to have strengths and weaknesses. These areas can then be addressed to help reduce effects of internalizing disorders. For example, if an adolescent had a low score on the physical subscale, it might be helpful to investigate what the student considered negative and what the student considered positive. At that point it would be possible to construct an intervention to aid the student in decreasing the negative points and increasing the positive. This should increase his/her self-concept and lower levels of internalizing symptoms.

Clinical Implications

The finding of a strong, stable two-factor solution increases the utility of the ISSA as a screening instrument. As reported by Merrell and Walters (1996), a key feature in determining a difference between depression and anxiety is the absence of positive affect in depression. As stated previously, the ability to identify not only the presence of internalizing symptoms but the level of positive or negative affect can aid clinicians. The first benefit would be in guiding a clinical interview to further assess level or type of distress and presence or level of positive affect. The second benefit to clinicians would be in aiding the determination of whether intervention strategies targeting depression or anxiety would be move beneficial. Typically, interventions for depression and anxiety have many components that are dissimilar. While interventions for either depression or anxiety need to focus on affect, cognitions, and behavior, the procedures may differ. It would make sense to address the symptoms that differ when forming interventions for depression and anxiety. In treating anxiety problems, there is a physiological arousal component that needs to be addressed to help the client have fewer physiological symptoms and to feel more in control. With depression a clinician would address both the high levels of negative affect and the lack of positive affect and not need to address hyperarousal issues. With anxiety disorders there is typically no need to address a lack of positive affect. Therefore, the need to identify which disorder is being addressed is key to a competent intervention.

The relationship between self-concept and internalizing disorders could also help clinicians in developing appropriate interventions. Looking at what domain of self-concept is greatest and building on that perceived strength as well as looking at what domain is weakest and developing strategies to increase confidence in those areas would be beneficial in a clinical setting. The combined use of a self-concept measure and the ISSA would facilitate therapeutic interventions to address internalizing disorders and negative self-concept simultaneously.

Limitations of the Study

While this study supports the use of the ISSA as a psychometrically sound measure for assessing internalizing disorders in adolescents, it is the beginning of data collection supporting the use of the instrument and further research is warranted. One limitation of the study was the volunteer basis of the sample. There may be some aspects of the students whose parents consented to their participation that could confound the results. There may be a qualitative difference between those who are willing to participate and those who choose not to participate (Borg & Gall, 1979). Also, the day of testing, many of the seniors in the school opted to participate in a "senior sneak" day, leaving fewer seniors available for testing, which may skew the results of the senior sample. It could be argued that the seniors who remained were unique and not representative of that age cohort. Another limitation was the time of year data were collected. The very end of school did not allow for follow-up collection in the high school with seniors or in the middle school, as had been needed due to conflicting schedules.

Another limitation of this study was the limited geographic area sampled, limiting the ability to generalize to a larger population. The sample population was mostly Caucasian from middle to upper-middle socioeconomic families. Thus, while the results may generalize to many similar communities in the midwest, they will not likely generalize to more diverse populations, such as an Indian reservation in Arizona or an inner-city area of New York City or Los Angeles. It is recommended that ISSA data be collected for a more diverse sample from various areas in the country in order to aid in making the results generalize to a larger population.

While some researchers may consider self-report measures a limitation, it could be argued that who better to assess one's affect and self-concept than oneself. However, there is the possibility that students might choose to answer the questions in a manner that would make themselves appear in either a positive or negative light. The goal of being regarded in a socially desirable way could impact results. A multisource, multimethod assessment would provide a more comprehensive picture.

Directions for Future Research

Recommendations for future research include the above-stated need for a wider geographic sample. In addition, it would be interesting to examine internalizing symptomatology in adolescents using additional methods of assessment (i.e., rating scales developed for parents and teachers) in conjunction with the ISSA. This multisource, multimethod assessment could provide additional support and validation to the ISSA as well as provide a more comprehensive analysis. Additional studies looking at the

relationship of positive affect and negative affect and internalizing disorders may shed additional light on whether one is more of a determinant of negative outcomes for adolescents. Currently, we do not know whether the lack of positive affect is correlated with more severe levels of internalizing symptoms or whether the severity of internalizing symptoms is more a relationship of degree of negative affect.

The present research provides new information on internalizing disorders and self-concept in adolescents, as well as evidence for the validity of the ISSA as a screening measure for internalizing disorders. The present study also provides support and additional information for the tripartite model of affectivity. As with all research there were limitations with the level of confidence in the generalizability of the results. However, future research can build on the present study to expand the knowledge base regarding internalizing disorders in adolescents.

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APPENDICES

Appendix A: ISSA Protocol

ISSA Research Form

Please Provide The Following Information About Yourself

My Sex (*check one*): ☐ Male ☐ Female

My Age _____ The Grade I Am In At School _____

My Race or Ethnic Group (*check all that apply*)

- ☐ African American/Black
- ☐ American Indian, Eskimo, or Aleut
- ☐ Asian or Pacific Islander
- ☐ Hispanic
- ☐ White/Caucasian
- ☐ Other

Directions

The following sentences tell some ways that teenagers might sometimes feel. Read each of these sentences and decide how often they are true for you. Ask yourself, "Is this *Never true, Hardly Ever true, Sometimes true,* or *Often true* for me?" After you have decided how often the sentence is true for you, make an **X** in the box that goes with that answer. There are no right or wrong answers, just choose the answer that tells how you feel.

Example	Never True	Hardly Ever True	Sometimes True	Often True
I feel like reading a book	☐	☐	☐	☐

How true is this for me?	Never True	Hardly Ever True	Sometimes True	Often True
1. I am shy	☐	☐	☐	☐
2. I worry about things	☐	☐	☐	☐
3. I feel cheerful	☐	☐	☐	☐
4. I have bad dreams	☐	☐	☐	☐
5. I feel important	☐	☐	☐	☐
6. Things are hard for me	☐	☐	☐	☐
7. I feel lonely	☐	☐	☐	☐
8. I worry that I will hurt someone	☐	☐	☐	☐
9. I have lots of energy	☐	☐	☐	☐
10. I have trouble sleeping	☐	☐	☐	☐

How true is this for me?	Never True	Hardly Ever True	Sometimes True	Often True
11. I feel like I might faint	☐	☐	☐	☐
12. I get upset easily	☐	☐	☐	☐
13. I am good at lots of things	☐	☐	☐	☐
14. I feel like I have made too many mistakes	☐	☐	☐	☐
15. Lots of things scare me	☐	☐	☐	☐
16. Other people like me	☐	☐	☐	☐
17. I feel like crying	☐	☐	☐	☐
18. When there is a problem it is my fault	☐	☐	☐	☐
19. I have a difficult time breathing	☐	☐	☐	☐
20. I do things as well as other people my age	☐	☐	☐	☐
21. I worry that something bad will happen	☐	☐	☐	☐
22. I am comfortable with the way I look	☐	☐	☐	☐
23. I feel sad	☐	☐	☐	☐
24. I get scared for no reason	☐	☐	☐	☐
25. I feel sick to my stomach	☐	☐	☐	☐
26. I laugh and smile as much as other people	☐	☐	☐	☐
27. I feel restless	☐	☐	☐	☐
28. I would rather be alone than with other people	☐	☐	☐	☐
29. I have a hard time concentrating on things	☐	☐	☐	☐
30. I feel sorry for myself	☐	☐	☐	☐
31. My feelings get hurt easily	☐	☐	☐	☐
32. I don't enjoy anything	☐	☐	☐	☐
33. I have a hard time making up my mind	☐	☐	☐	☐
34. I think about hurting myself	☐	☐	☐	☐
35. I do well in school	☐	☐	☐	☐
36. It seems like no one cares about me	☐	☐	☐	☐
37. I feel happy	☐	☐	☐	☐
38. I feel very tired	☐	☐	☐	☐
39. I don't feel like doing anything	☐	☐	☐	☐
40. I like myself	☐	☐	☐	☐

How true is this for me?	Never True	Hardly Ever True	Sometimes True	Often True
41. I worry that other people will not like the way I do things	☐	☐	☐	☐
42. I hate it when I am the center of attention	☐	☐	☐	☐
43. Bad things happen to me	☐	☐	☐	☐
44. I think about dying	☐	☐	☐	☐
45. My hands and feet feel sweaty	☐	☐	☐	☐
46. I feel like doing things with other kids my age	☐	☐	☐	☐
47. I can't do anything right	☐	☐	☐	☐
48. I feel nervous	☐	☐	☐	☐
49. I get embarrassed easily	☐	☐	☐	☐
50. I have lots of aches and pains	☐	☐	☐	☐
51. Sometimes I feel like I am going to explode	☐	☐	☐	☐
52. I feel confused	☐	☐	☐	☐
53. I feel great	☐	☐	☐	☐
54. I believe things will turn out okay for me	☐	☐	☐	☐
55. I feel guilty	☐	☐	☐	☐
56. I feel terrible when I make mistakes	☐	☐	☐	☐
57. I don't give up when things get tough	☐	☐	☐	☐
58. Things I used to like aren't fun anymore	☐	☐	☐	☐
59. I'm afraid that I will fail	☐	☐	☐	☐
60. I'm not as good as my parents want me to be	☐	☐	☐	☐
61. I try again when I loose	☐	☐	☐	☐
62. It feels like I have a lump in my throat	☐	☐	☐	☐
63. I feel calm and relaxed	☐	☐	☐	☐

Utah State
UNIVERSITY

DEPARTMENT OF PSYCHOLOGY
2810 Old Main Hill
Logan, UT 84322-2810
Telephone: (435) 797-1460
FAX: (435) 797-1448

June 29, 2001

Sue Dowd
Psychology Department
Utah State University
Logan, UT 84322-2810

Dear Sue:

This letter formalizes the previous verbal agreement between you, myself, and Dr. Ken Merrell regarding use of the ISSA in your dissertation research. As we previously discussed, you have the permission of Dr. Merrell and myself to photocopy the research protocol of the ISSA for use in your research. In exchange, the data you collect will be made available to Dr. Merrell and myself for use in the norming sample for the instrument.

Sincerely,

Susan L. Crowley, Ph.D.
Associate Professor

Appendix B: MSCS Protocol

S SCALE

Strongly Agree (SA)	Agree (A)	Disagree (D)	Strongly Disagree (SD)

		SCORE
1. I am usually a lot of fun to be with	SA A D SD	
2. People do not seem interested in talking with me	SA A D SD	
3. I am too shy	SA A D SD	
4. Most people like me	SA A D SD	
5. People avoid me	SA A D SD	
6. A lot of people make fun of me	SA A D SD	
7. I am not accepted by people who know me	SA A D SD	
8. Most people think I am interesting	SA A D SD	
9. People enjoy being with me	SA A D SD	
10. Most of the time I feel ignored	SA A D SD	
11. I feel desired by members of the opposite sex	SA A D SD	
12. No one seems to laugh at my jokes	SA A D SD	
13. Most people appreciate me just the way I am	SA A D SD	
14. I often feel like I am left out of things	SA A D SD	
15. People tell lies about me	SA A D SD	
16. I have a lot of friends	SA A D SD	
17. I spend a lot of time feeling lonely	SA A D SD	
18. I am never sure how to act when I am with people I don't know well	SA A D SD	
19. People tell me their secrets	SA A D SD	
20. People pick on me	SA A D SD	
21. People do not seem to notice me	SA A D SD	
22. I get a lot of phone calls from friends	SA A D SD	
23. Many people have a low opinion of me	SA A D SD	
24. I let people bully me too much	SA A D SD	
25. People have to get to know me before they like me	SA A D SD	
S Scale Total Raw Score		

C SCALE

Strongly Agree (SA)	Agree (A)	Disagree (D)	Strongly Disagree (SD)

		SCORE
26. I am honest	SA A D SD	
27. Too often I say the wrong thing	SA A D SD	
28. I am too lazy	SA A D SD	
29. I have a good sense of humor	SA A D SD	
30. I am basically a weak person	SA A D SD	
31. I feel that most people respect me	SA A D SD	
32. I am not very good at speaking my mind	SA A D SD	
33. I am assertive when I need to be	SA A D SD	
34. I am unlucky	SA A D SD	
35. I am very self confident	SA A D SD	
36. I don't seem to have any control over my life	SA A D SD	
37. I frequently put off doing important things until it is too late	SA A D SD	
38. I give people good reason to trust me	SA A D SD	
39. I am not as good as I should be	SA A D SD	
40. I don't keep quiet when I should	SA A D SD	
41. I am successful at most things	SA A D SD	
42. I handle my personal business responsibly	SA A D SD	
43. I lack common sense	SA A D SD	
44. I always seem to be in trouble	SA A D SD	
45. I can do most things pretty well	SA A D SD	
46. I am not very smart	SA A D SD	
47. I am a coward in many ways	SA A D SD	
48. Others believe that I will make something of myself	SA A D SD	
49. Too often I do dumb things without thinking	SA A D SD	
50. I waste money foolishly	SA A D SD	
C Scale Total Raw Score		

AFF SCALE

Strongly Agree (SA)	Agree (A)	Disagree (D)	Strongly Disagree (SD)

		SCORE
51. I enjoy life	SA A D SD	
52. I am afraid of many things	SA A D SD	
53. There are many things I would like to change about myself	SA A D SD	
54. I am not able to laugh at myself very easily	SA A D SD	
55. I am not a happy person	SA A D SD	
56. I am proud of myself	SA A D SD	
57. I feel like a failure	SA A D SD	
58. My life is discouraging	SA A D SD	
59. I am happy with myself just the way I am	SA A D SD	
60. I am too emotional	SA A D SD	
61. I have good self control	SA A D SD	
62. I often disappoint myself	SA A D SD	
63. My life is unstable	SA A D SD	
64. I have a positive outlook on life	SA A D SD	
65. I am frequently confused about my feelings	SA A D SD	
66. Sometimes I feel worthless	SA A D SD	
67. I often feel ashamed of things I have done	SA A D SD	
68. I frequently feel helpless	SA A D SD	
69. I feel loved	SA A D SD	
70. I wish I could be someone else	SA A D SD	
71. I feel insecure	SA A D SD	
72. I am a good person	SA A D SD	
73. I am not as happy as I appear	SA A D SD	
74. I am usually very relaxed	SA A D SD	
75. There are times when I don't like myself	SA A D SD	
AFF Scale Total Raw Score		

AC SCALE

Strongly Agree (SA)	Agree (A)	Disagree (D)	Strongly Disagree (SD)

		SCORE
76. Classmates usually like my ideas	SA A D SD	
77. I frequently feel unprepared for class	SA A D SD	
78. I am good at mathematics	SA A D SD	
79. Learning is difficult for me	SA A D SD	
80. I usually do well on tests	SA A D SD	
81. I am proud of my school work	SA A D SD	
82. I can spell better than most people my age	SA A D SD	
83. I read as well as most people my age	SA A D SD	
84. I don't think very quickly	SA A D SD	
85. I work harder than most of my classmates	SA A D SD	
86. I don't understand much of what I read	SA A D SD	
87. I learn fairly easily	SA A D SD	
88. I never seem to have good ideas	SA A D SD	
89. My teachers like my classroom behavior	SA A D SD	
90. I often feel dumb	SA A D SD	
91. Most of my teachers seem to like me	SA A D SD	
92. I have poor study habits	SA A D SD	
93. Science is easy for me	SA A D SD	
94. I am uncomfortable in school	SA A D SD	
95. I usually work very hard	SA A D SD	
96. Most people would rather work with me than someone else	SA A D SD	
97. My teachers have a low opinion of me	SA A D SD	
98. Most subjects are pretty easy for me	SA A D SD	
99. I am not very creative	SA A D SD	
100. I usually feel good about my written work	SA A D SD	
AC Scale Total Raw Score		

F SCALE

Strongly Agree (SA)	Agree (A)	Disagree (D)	Strongly Disagree (SD)

		SCORE
101. My parents care about my happiness	SA A D SD	
102. My family makes me feel loved	SA A D SD	
103. My family ruins everything for me	SA A D SD	
104. In my family, we take care of each other	SA A D SD	
105. I feel appreciated by my family	SA A D SD	
106. I have fun with my family	SA A D SD	
107. I wish I could trade families with someone else	SA A D SD	
108. My parents are interested in me	SA A D SD	
109. My parents don't trust me	SA A D SD	
110. My home is warm and caring	SA A D SD	
111. My parents do not like my being around them	SA A D SD	
112. My parents help me when I need it	SA A D SD	
113. I am an important member of my family	SA A D SD	
114. My parents are proud of me	SA A D SD	
115. My family is no good	SA A D SD	
116. Nothing I do seems to please my parents	SA A D SD	
117. My parents attend events that are important to me	SA A D SD	
118. My parents believe in me	SA A D SD	
119. I am proud of my family	SA A D SD	
120. My parents care about my education	SA A D SD	
121. My family is one of the most important parts of my life	SA A D SD	
122. My parents love me just as I am	SA A D SD	
123. I don't know why my family stays together	SA A D SD	
124. My parents care about my future	SA A D SD	
125. My home is not a happy place	SA A D SD	
F Scale Total Raw Score		

P SCALE

Strongly Agree (SA)	Agree (A)	Disagree (D)	Strongly Disagree (SD)

		SCORE
126. I feel good	SA A D SD	
127. I am attractive	SA A D SD	
128. I am in poor shape	SA A D SD	
129. When I look in the mirror, I like what I see	SA A D SD	
130. I tire too quickly	SA A D SD	
131. I have nice looking teeth	SA A D SD	
132. I look nice in just about anything I wear	SA A D SD	
133. I am ugly	SA A D SD	
134. I am stronger than most people	SA A D SD	
135. I have a nice figure	SA A D SD	
136. I am healthy	SA A D SD	
137. I feel good about how I look	SA A D SD	
138. I am good at most sports	SA A D SD	
139. I do not like how my clothes fit me	SA A D SD	
140. I am typically chosen among the last for team sports	SA A D SD	
141. I am physically fit	SA A D SD	
142. My hair never seems to look very good	SA A D SD	
143. My skin is attractive	SA A D SD	
144. I do not like to be seen in a swimsuit	SA A D SD	
145. There are parts of my body that I try to keep others from noticing	SA A D SD	
146. My clothes look good on me	SA A D SD	
147. I do not seem to have the energy to do very much	SA A D SD	
148. My weight is just about where it should be	SA A D SD	
149. I would change my looks if I could	SA A D SD	
150. I am graceful	SA A D SD	
P Scale Total Raw Score		

Appendix C: IRB Approval

Utah State UNIVERSITY

VICE PRESIDENT FOR RESEARCH OFFICE
Logan UT 84322-1450
Telephone: (435) 797-1180
FAX: (435) 797-1367
INTERNET: lpgerity@champ.usu.edu

February 11, 1999

MEMORANDUM

TO: Susan Crowley
Sue Dowd

FROM: True Rubal, IRB Coordinator

SUBJECT: Internalizing symptoms in Adolescents: Assessment & Relationship to Self-concept

The above referenced proposal was reviewed and approved by the IRB. You may consider this letter to be your approval for your study.

Any deviation from this protocol will need to be resubmitted to the IRB. This includes any changes in the methodology of procedures in this protocol. A study status report (stating the continuation or conclusion of this proposal) will be due in one year from the date of this letter.

Please keep the committee advised of any changes, adverse reactions or the termination of this study. I can be reached at extension 7-1180.

Appendix D: Letter to Parents/Consent Form

October 12, 1998

Dear Winfield Parent:

We are seeking permission from the parents of all the students in grades 9, 10, 11, and 12 for these students to participate in a screening activity for the purpose of developing a new psychological test for adolescents. This new test will ultimately be used to identify symptoms of depression and anxiety in adolescents. This test will be combined with a measure of self-concept to determine if there is a relationship between self-concept and depression or anxiety.

For this research project, each student will be asked to spend approximately 15-20 minutes per measure to respond to a number of questions related to the topics covered by these instruments. Participation is completely voluntary. Any student who does not wish to participate will be excused from the activity without consequence. The students who do not participate will be expected to study as directed by their teacher during this time period.

Any information that we gather from this study will remain confidential. We will study the results by putting them in a group with all the other students of that age category. We will not be looking at the results on an individual basis and the individual results will not be known to any other persons.

The study is being conducted by Sue Dowd, a graduate student in psychology from Utah State University, as partial completion of a doctorate of philosophy degree. If you have any questions concerning this activity, please feel free to contact Ms. Dowd at (435-753-5585). Your participation is greatly appreciated.

Consent for Participation

Dear Parent:

In the next few weeks, students in grades 6 - 12 at your child's school will be asked to participate in a screening activity for the purpose of developing and improving a new psychological test for adolescents. This new test will ultimately be used to help identify depression and anxiety problems of children in grades 6 - 12. They will also be asked to respond to a measure of self-concept. For the screening activity, each child will be asked to take approximately 50 minutes to respond to a number of written questions regarding his or her mood, the way he or she feels about himself or herself, and certain behaviors he or she may display that are related to depression and anxiety. Examples of the actual statements in the screening include "I am shy," "I worry about things," "I am cheerful," "I feel very tired," "I am happy." The children will respond to the items by indicating how often each item is true for them. Participation will be completely voluntary, and any child who does not wish to participate will be excused from the activity without consequence. I believe that there is very minimal risk in this activity. Therefore, I would appreciate your informed consent for your child to participate. If you agree that you child can participate in this activity, please fill out the bottom portion and return it to your child. He or she will bring it to class with them. If you do not wish your child to participate, please indicate that and your child will be excused from the activity without consequence. If you have any questions about this project, please feel free to contact me at (435) 753-5585.

Thank you for your cooperation.

Susan L. Crowley, Ph.D.
Principal Investigator and Associate Professor
Department of Psychology, Utah State University

Sue A. Dowd, M. Ed.
Student Investigator
Utah State University

I, _____, **do not** wish for my child

_____, to participate in the screening activity.

I, _____, **allow** my child,

_____, to participate in the screening activity.

_____ _____

Parent Signature Date

Appendix E: Demographic Data Sheet

CODE # _____

DEMOGRAPHIC DATA

Age at last birthday _____ Grade in school _____

Gender: Male _____ Female _____

Ethnic origin

_____ African American
_____ Asian American
_____ Caucasian
_____ Hispanic
_____ Native American
_____ Other (please state what it is) _____

What is the highest level of parent education?

Father	Mother
_____ did not complete high school	_____ did not complete high school
_____ high school graduate	_____ high school graduate
_____ some college	_____ some college
_____ college graduate	_____ college graduate
_____ postgraduate work	_____ postgraduate work

Appendix F: Structure Matrice

Oblique Two-Factor Solution

Item	Factor 1	Factor 2
1	.34	.20
2	.55	.12
3	.28	.59
4	.47	.22
5	.37	.67
6	.46	.27
7	.58	.43
8	.40	.23
9	.27	.59
10	.51	.37
11	.42	.24
12	.54	.23
13	.30	.59
14	.59	.43
15	.55	.22
16	.25	.58
17	.67	.28
18	.57	.32
19	.39	.32
20	.24	.55
21	.69	.35
22	.39	.55

Item	Factor 1	Factor 2
23	.74	.51
24	.59	.37
25	.62	.33
26	.31	.71
27	.42	.30
28	.47	.39
29	.52	.37
30	.64	.43
31	.68	.32
32	.43	.56
33	.56	.31
34	.52	.59
35	.23	.54
36	.63	.61
37	.35	.74
38	.57	.31
39	.55	.39
40	.50	.71
41	.52	.19
43	.59	.46
44	.59	.51
45	.47	.35
46	.21	.52
47	.62	.53
48	.64	.29

Item	Factor 1	Factor 2
49	.52	.20
50	.57	.36
51	.62	.39
52	.71	.42
53	.51	.76
54	.40	.69
55	.61	.35
56	.45	.00
57	.19	.49
58	.41	.30
59	.57	.27
60	.44	.45
61	.31	.59
62	.45	.37
63	.45	.62

Appendix G: Multiple Regression Analyses

Table 10

Variance Accounted for in the ISSA by Two MSCS Subscales

	Regression analysis results	
MSCS subscale	R	R^2
Social * Competence	.68	.46
Social*Affect	.78	.61
Social*Academic	.66	.44
Social*Family	.66	.44
Social*Physical	.70	.48
Competence*Affect	.78	.61
Competence*Academic	.65	.42
Competence*Family	.66	.43
Competence*Physical	.71	.51
Affect*Academic	.78	.61
Affect*Family	.78	.61
Affect*Physical	.79	.62
Academic*Family	.59	.35
Academic*Physical	.69	.47
Family*Physical	.69	.47

Table 11

Variance Accounted for in the ISSA by Three MSCS Subscales

	Regression analysis results	
MSCS subscale	R	R^2
Social * Competence*Affect	.78	.61
Social*Competence*Academic	.68	.47
Social*Competence*Family	.69	.48
Social*Competence*Physical	.72	.52
Social*Affect*Academic	.78	.61
Social*Affect*Family	.78	.61
Social*Affect*Physical	.79	.62
Social*Academic*Family	.68	.46
Social*Academic*Physical	.71	.51
Social*Family*Physical	.72	.51
Competence*Affect*Academic	.78	.61
Competence*Affect*Family	.78	.61
Competence*Affect*Physical	.79	.62
Competence*Academic*Family	.66	.44
Competence*Academic*Physical	.71	.51
Competence*Family*Physical	.72	.52
Affect*Academic*Family	.78	.61
Affect*Academic*Physical	.79	.62
Affect*Family*Physical	.79	.62
Academic*Family*Physical	.70	.49

Table 12

Variance Accounted for in the ISSA by Four MSCS Subscales

	Regression analysis results	
MSCS subscale	R	R^2
Social * Competence*Affect*Academic	.78	.61
Social*Competence*Affect*Family	.78	.61
Social*Competence*Affect*Physical	.79	.62
Social*Competence*Academic*Family	.69	.48
Social*Competence*Academic*Physical	.72	.52
Social*Competence*Family*Physical	.73	.53
Social*Affect*Academic*Family	.78	.61
Social*Affect*Academic*Physical	.79	.62
Social*Affect*Family*Physical	.79	.62
Social*Academic*Family*Physical	.72	.52
Competence*Affect*Academic*Family	.78	.61
Competence*Affect*Academic*Physical	.79	.62
Competence*Affect*Family*Physical	.79	.62
Competence*Academic*Family*Physical	.72	.52
Affect*Academic*Family*Physical	.79	.62

Table 13

Variance Accounted for in the ISSA by Five MSCS Subscales

	Regression analysis results	
MSCS subscale	R	R^2
Social * Competence*Affect*Academic*Family	.78	.61
Social*Competence*Affect*Academic*Physical	.79	.62
Social*Competence*Affect*Family*Physical	.79	.62
Social*Competence*Academic*Family*Physical	.73	.53
Social*Affect*Academic*Family*Physical	.79	.62
Competence*Affect*Academic*Family*Physical	.79	.62

VITA

SUE A. DOWD

Home Address:
1471 E. Noelle Rd
Sandy, Utah 84092
801-572-3913 (Home)
801-755-1197 (Cell)

ACADEMIC BACKGROUND:

Utah State University
Ph.D.Candidate
Clinical/Counseling/School Psychology (APA Accredited) — Dissertation Defense
Dissertation: Internalizing Symptoms in Adolescents: Assessment and Relationship to Self-Concept — 4/10/01

Wichita State University — M.Ed.
Counseling — 1997
Thesis: Intimacy Development in Early Adolescence

Wichita State University — B.A.
Psychology — 1972

PROFESSIONAL EXPERIENCE:

Therapist — 9/00-Current
Associated Clinical and Counseling Psychologists
Midvale & Orem, Utah
Supervisors:
David Dodgion, Ph.D.
Jonathon Ririe, Ph.D.
Primary Responsibilities:
Conduct Domestic Violence Group Therapy, conduct intake interviews, provide individual therapy for domestic violence victims, sexual abuse victims (both adult and children), and provide treatment for sexual offenders.

Pre-doctoral Intern (APA Accredited) 9/99- 8/00
Salt Lake City VA Medical Center
Supervisors:

Thomas Aikins, Ph.D., Outpatient Mental Health
Kay Koellner, Ph.D., Medicine/Primary Care
Patrick Miller, Ph.D., Rehabilitation/Geriatrics/Neurology
Richard Weaver, Ph.D., Inpatient Psychiatry Unit

Primary Responsibilities:

Inpatient: Conducted psychological evaluations and neuropsychological screenings, planned treatment goals with inpatient treatment team, taught psychoeducational classes, co-led therapy group.
Outpatient: Conducted intake interviews, provided psychological assessments, co-led psychotherapy group, individual and family psychotherapy.
Medical Psychology: Conducted psychological assessments as part of a multidisciplinary team for Primary Care, Geriatric Medicine, and Neurology Units and functioned in a consultation-liaison role with Medicine/Surgery for hospitalized veterans.

Psychology Intern/Consultant 6/98 - 7/99
Division of Services to Persons with Disabilities
State of Utah
Supervisor: David Stein, Ph.D.
Hours: 860
Primary Responsibilities:

Conducted individual psychological evaluations of mentally disabled adults. Provided individual and couples therapy services. Provided education and support during consultation with case managers, other service providers working with disabled population, and families of disabled clients.

Therapist
Psychology Department Community Clinic 10/94- 7/99
Utah State University
Supervisor: David Stein, Ph.D.
Hours: 135
Primary Responsibilities:

Completed intake interviews and psychodiagnostic assessments. Clients were children, adolescents and adults from the community seen in individual, conjoint and family therapy sessions.

Psychology Intern 10/97- 6/98
Bear River Mental Health Services, Inc.
Supervisor: Leland (Skip) Winger, Ph.D.
Hours: 640
Primary Responsibilities:

Provided individual and family therapy services. Conducted comprehensive individual psychological evaluations and mental assessments. Wrote psychological reports.

Clinical Services Psychoeducational Specialist 7/96-6/97
Clinical Services Program, Center for Persons with Disabilities
Supervisor: Phyllis Cole, Ph.D.
Hours: 900
Primary Responsibilities:

Conducted comprehensive individual psychological and educational evaluations primarily with children and adolescents. Provided individual and family therapy. Coordinated with interdisciplinary evaluation teams. Supervised practicum interns.

Psychoeducational Specialist/Family Consultant 6/95-9/96
Resource Staff Assistant and Mental Health Specialist
Community Family Partnership, Center for Persons with Disabilities
Supervisor: Pat Truhn, Ph.D.
Hours: 840
Primary Responsibilities:

Conducted assessments of developmental progress with infants through adolescents. Provided educational/child development resources to Family Consultants, conducted periodic mental health screenings of family members, provided mental health therapy for family members in the project, administered psychoeducational assessments, maintained family resource file.

Clinic Assistant
Utah State University Psychology Department 9/94 - 6/95
Community Clinic
Clinic Director/Supervisor: David Stein, Ph.D.
Hours: 600
Primary Responsibilities:

Maintained records of student use of assessment instruments, purchased assessment supplies and instruments, maintained records of therapist contact hours, assisted the Clinic Director in other administrative responsibilities.

Practica Experience:

Psychology Intern 7/96-3/97
Behavioral Health Unit, Logan Regional Hospital
Supervisor: Bruce Johns, Ph.D.
Practicum Hours: 300
Primary Responsibilities:

Inpatient: Conducted group therapy sessions, interpreted psychological testing and wrote psychological evaluation reports, and participated in interdisciplinary team meetings.

Therapist
USU Counseling Center Practicum 10/96-7/97
Supervisors: Mary Doty, Ph.D., Jan Neece, Ph.D.
Practicum Hours: 300
Primary Responsibilities:

Provided therapeutic support for university students. Client problems included depression, academic problems, eating disorders, and interpersonal problems. Co-lead group therapy focusing on eating disorders and related issues.

Clinical Services Intern 9/95-6/96
Center for Persons with Disabilities
Supervisor: Phyllis Cole, Ph.D.
Practicum Hours: 300
Primary Responsibilities:

Conducted individual psychological and educational evaluations/assessments primarily with children/adolescent and with adults with developmental disabilities. Provided individual and family therapy services. Worked as part of an interdisciplinary team during evaluations.

Psychology Intern 10/94 - 7/99
Psychology Department Community Clinic
Supervisors: Gwena Couillard, Ph.D., Susan Crowley, Ph.D., David Stein, Ph.D.
Practicum Hours: 400
Primary Responsibilities:

Completed intake interviews and psychodiagnostic assessments. Clients were children, adolescents and adults from the community seen in individual, conjoint and family therapy sessions. Wrote comprehensive psychological evaluation reports, maintained current therapy notes.

Counseling Intern 9/93 - 5/94
Counseling, Educational and School Psychology Department
Supervisor: Ruth Hitchcock, Ph.D.
Internship Hours: 50
Primary Responsibilities:

Provided mental health counseling for students at Kansas Newman College and worked at a shelter for battered women and their children in a neighboring community, providing counseling as requested.

Counseling Practicum 1/93 - 5/94
Counseling, Educational and School Psychology
Supervisor: Joseph Mau, Ph.D.
Practicum Hours: 85
Primary Responsibilities:

Provided mental health counseling to children, adolescents and adults from the Wichita community.

Graduate Research Assistant 10/91-5/94
Research Professors:

Glen Dey, Ed.D., Linda Bakken, Ph.D. & Charles Romig, Ph.D.

Primary Responsibilities:

Conducted library searches, collected data from elementary, middle and high schools and college of education majors, scored data and entered data into computer system.

Counselor/Volunteer for YWCA Shelter for Battered Women and Children 10/92 - 3/94
Supervisor: YWCA Board of Directors
Primary Responsibilities:

Answered calls on crisis hotline concerning abuse and counseled women in the shelter as needed.

Work Experience Unrelated to Psychology:

Co-Owner and Corporate Officer, Syracuse Flying Service, Inc. 1973-1990
Primary Responsibilities:

Managed and executed all office work for corporation with Annual Gross Revenues of $850,000. Planned educational seminars for customers.

Assistant Head Resident, Colorado State University 8/72-3/73
Co-ed Dorm of 400 Residents
Supervisor: Maggie Petrosky
Primary Responsibilities:
Assisted with staff and counseled students

Resident Assistant, Wichita State University 8/69-5/72
Women's Dorm
Supervisor: Elizabeth Haire
Primary Responsibilities:
Dorm security and counseling residents

Presentations:

Dowd, S., Romig, C. & Bakken, L. (1998, August). Intimacy Development in Early Adolescence. Annual Convention of the American Psychological Association, San Francisco, CA.

Dowd, S., Baker, E., Bakken, L., Belt, J.,Tramill, J. (1993, October). Psychosocial differences between elementary and secondary preservice teacher candidates. Seminar titled: Human Development: Psychosocial Aspects. Mid-Western Educational Association Annual Conference, Chicago, IL.

Baker, E., Bakken, L, Belt, J., Dowd, S., Tramill, J. (1993, October). Psychosocial characteristics of persisters and non-persisters in undergraduate teacher education programs. Mid-Western Educational Association Annual Conference, Chicago, IL.

Belt, J., Baker, E., Bakken, L., Dowd, S., Tramill, J. (1993, October). Preservice teacher education students: Their development of mature psychosocial characteristics. Mid-Western Educational Association Annual Conference, Chicago, IL.

Affiliations:

Member, American Counseling Association 1991- Present
Member, American Psychological Association 1993 - Present
Member, American College Counseling Association 1995 - 2000

Academic Honors:

Uhlberg Scholarship Recipient, 1992
Uhlberg Scholarship Recipient, 1993
Psi Chi, National Honor Society in Psychology, 1972
SPURS Honor Organization, 1970

References:

Dodgion, David, Ph.D., Associated Clinical and Counseling Psychologists, 195 W. 7200 S., Suite 212, Midvale, UT. 84047-3722 Phone: 801-565-1882

Ririe, Jonathan, Ph.D., Associated Clinical and Counseling Psychologists, 195 W. 7200 S., Suite 212, Midvale, UT. 84047-3722 Phone: 801-856-5181

Patrick Miller, Ph.D., Department of Veterans Affairs, Salt Lake City Health Care System, 500 Foothill Boulevard, Salt Lake City, UT 84148 Phone: 801-582-1565 ext.4572

David Stein, Ph.D., Department of Psychology, Utah State University, Logan, UT 84322 Phone: 435-797-3274

Mary Doty, Ph.D., Counseling Center, Utah State University, Logan, UT 84322 Phone: 435-797-1012

Pat Truhn, Ph.D., Clinical Services Program, Center for Persons with Disabilities, Utah State University, Logan, UT 84322 Phone: 435-797-3822